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Interview: Lewis T. Preston

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INTERVIEW

Responding to the Development Challenge

World Bank President, Lewis T. Preston, speaks with Finance & Development *about how the Bank is trying to meet the needs of its members, both old and new*

CHANGES AT THE BANK

In making the transition from being the head of a big money center bank, J.P. Morgan, to being the head of a development agency, the World Bank, what element of your earlier experience is going to be most useful in your new job here?

I suppose that the managerial experience, both at Morgan and as the director of various companies, is something that is immediately transferable. There is, however, a great deal of difference between commercial banking and development banking, as I am finding out, and it didn't take long for me to realize how little I know!

You have already made some changes in the management structure of the Bank, eliminating the layer of Senior Vice Presidents and setting up three Managing Directors in the Office of the President, for example. Is there any other change you feel the institution needs at this juncture?

No. Those changes have speeded up the response time. The new structure allows line managers to function with greater autonomy in their areas of authority, speeds up decisionmaking and communications, and helps us better coordinate our activities with other agencies. Human resources are the Bank's most important asset and their development is critical for its operational excellence. We have centralized the personnel function so there will be a Bank-wide view of how best to enhance the skills and experience of our staff and how best to deploy them effectively and efficiently. A new well-defined and easily applied budget process will also be put into place. It is too early to tell if the recentralization of the personnel function and the new budget procedures have succeeded. I certainly hope they will.

It is the responsibility of management to energize and motivate staff. To the extent we have simplified the organization and made it more responsive to the new challenges of development, we have started in the right direction.

THE FORMER SOVIET UNION

This "new" World Bank is going to be tested in your involvement with the former Soviet Union. What has been the experience to date?

The decision to initially establish a resident mission in Moscow enabled us to respond more quickly than if we had simply sent missions from Washington. It allowed us to begin and continue a dialogue with the Russian authorities and, using Moscow as the base for contacts with other republics, to begin to ascertain their needs. We also mounted a technical assistance program, providing expertise where needed, but most important, helping to train local counterparts to take over the planning and management of economic ministries. As always, the proof of the pudding will be in the eating. How soon will we be able to begin normal lending operations to Russia and the other republics? I am confident that we should be able to present two, or possibly three, loans to our Board of Directors before the end of 1992.

What sort of lending do you hope to undertake in the republics?

The former-Soviet republics pose a great challenge. They have many different needs. We have to help them overturn many decades of inappropriate policies while putting in place new institutions, legal systems, and policies that will allow them to become more productive. The institutional frameworks are more firmly in place in the Baltic states and in Russia, so initially that is where much of the early lending will go. But policy reviews and technical assistance will continue in all the states of the former Soviet Union.

Some immediate problems must be addressed. For example, we, together with other multilateral organizations, focused our efforts quickly on the food sector. Working with the Russian Commission on Technical Assistance, we have produced a "Review of Food Policy Options and Agricultural Sector Reforms." We were fortunate to work with a team representing all regions of the former Soviet Union so that even though the study focused primarily on policy requirements in the Russian Federation, much of its analysis and proposed actions will be appropriate to other states of the former union. This was confirmed during a conference on the food sector in Moscow on April 2 and 3. We are also shaping an import rehabilitation loan to shore up infrastructure.

What is the nature of this food policy study and what is its main agenda?

There are short-term aims and longer-term aims. In the short term, we hope to ensure food production during 1992–93 will reach at least the level of the previous year. That still means dependence on food imports, worth some $11 billion, to fill the gap between domestic supply and demand. The state's role in food procurement will be cut drastically—confined primarily to purchasing sufficient food to maintain a safety-net for low-income groups. This will help cushion the poor against the full impact of food price increases. We will also help

strengthen food distribution and marketing systems to ensure food is available where needed. And, we will speed up the process of changing the structure of food production, distribution, and marketing.

This will involve many interlinked actions over the medium and long term: land reform, providing essential inputs and credits for farms, privatizing transport and distribution systems, and better disseminating information on prices to assist farmers, wholesalers, and retailers.

For the next year or so, the republics will need help to finance critical imports of food and other crucial inputs, such as spare parts, pharmaceuticals, veterinary medicines, and equipment. Donors should also be prepared to help finance public investment in the infrastructure needed to transform the agricultural sector.

To what extent are you coordinating your work in this region with the IMF?

The relationship between the two institutions has been intense. The process of membership and allocation of shares for the republics of the former Soviet Union has proceeded well. We hope that the membership arrangements in both the IMF and the Bank will be buttoned up by the end of June.

What elements of the Bank's experience in Eastern Europe will come into play in the work with Russia and the other former Soviet republics?

Our experience in Eastern Europe will obviously be useful. But there are clear distinctions between the former Soviet republics and Eastern Europe, where most countries had institutions that were not centrally directed and where there was some semblance of private enterprise. Indeed, parts of those economies—such as agriculture in Poland—remained in private hands. While the Eastern European experience will be useful, it is not necessarily transferable. The situation in the former Soviet Union is unique, particularly in the areas where we are presently active. The farm project is concerned with the whole food chain—from farm to distributor. We will also be involved in the energy sector, especially in modernizing oil production. Both the agriculture and the energy sector require specialized assistance, based on purely local conditions.

On looking at the Bank's work with centrally planned economies, or formerly centrally planned economies, one sees two models at work. One is the China model, where the Bank has taken a gradualist approach, and the other is the "Big Bang" approach of Eastern Europe. Why this difference?

There is no model that can be applied without regard to specific national circumstances, needs, and aspirations. Our membership is diverse and socioeconomic conditions, not to mention political conditions, vary between nations. We have to remember that it is respective governments that chose the "Big Bang" or the "Slow Bang" approach, not the Bank.

AFRICAN CHALLENGES

You have recently been in Africa. What impressions have you brought back about the development problems of the region?

This was my first visit to southern Africa. It was a fascinating trip and, in many ways, enormously instructive. The three countries I visited at any length—Tanzania, Zambia, and Zimbabwe—are examples of the new phenomena of democratic and transparent regimes in various stages of adjustment. All that has been accomplished there, of course, is being dramatically affected by the drought. It is enormously important that in looking at those countries we distinguish between, and adequately address, the hopefully short-term effects of the drought and their long-term efforts to restructure their economies.

It is clear that African countries that have chosen to adjust their economies and stayed the course have come out ahead. They have shown improved growth rates and attracted external assistance. It is important for their people and for donors to understand the importance of persevering on the adjustment path. The Bank and other donors can help by providing safety nets for those most severely affected in the early stages of adjustment programs.

One of the fears that African commentators and others have expressed is that the enormous attention and pull of resources toward the former Soviet Union might lead to the neglect of Africa. How are you going to avoid doing that in the use of Bank staff resources, as well as financial assistance?

It is terribly important to remember the Bank's primary objective is the alleviation of poverty. We realize that Africa must have our constant attention. There is no reason to expect that we will not be able to continue our existing programs in Africa. No Bank financing will be diverted from Africa to any other part of the world. The question of diverting human resources is a little more complex. When you are faced with 15 new members and have to move experienced Bank staff to form the nucleus of a group to serve these new clients, one has to face the issue of diversion or reallocation of staff. In this process, we have to be conscious that the reallocation is not based on withdrawal of staff from needy areas. But there will be some diversion of human resources—a modest one—based on a careful consideration of its effects on the regions from where staff are being moved.

DEBT

Could I take your attention back over the last decade—the so-called Decade of Debt. How well did the multilateral institutions react to the debt crisis?

Without the attention and skill of both the IMF and the Bank, the world financial system still would be mired in a very difficult and dangerous situation. Both institutions played a critical role, helping the indebted countries adjust their economies, providing financial assistance

and policy advice, and encouraging additional financial flows. It was a role that was forced upon the institutions but they responded very well indeed.

Latin America has recently seen a reflow of voluntary financing. What more needs to be done to speed recovery of Latin American nations?

In the relatively near future, I hope we will see the completion of new structural adjustment agreements in Argentina and Brazil. Without wishing to sound dramatic, one could describe these developments as the conclusion of the debt crisis. What remains to be done is enormous, because, inevitably, in the adjustment process, infrastructure and human resources have been neglected. It is to those areas that the Bank will turn its attention.

In the case of Argentina, for example, the Bank may be willing to support a commercial debt-reduction package, provided the agreed level of debt service is appropriate and the country takes into account the need for significant investments in infrastructure and the rehabilitation of social services. Argentina and other Latin American countries that have seen a return to voluntary private financing also face another problem: the need to ensure that these flows do not create inflationary pressures. Their central banks will need to sterilize such flows. Both the IMF and the Bank can help governments formulate proper policies in this regard.

What about the poorest countries that still have a lot of official debt? Do you think that the Paris Club has done enough in moving from the Toronto to the Trinidad Terms for debt rescheduling?

A significant development in the debt strategy for low-income countries has taken place in recent months with the agreement by Paris Club creditors to provide enhanced relief going beyond the Toronto Terms. But these enhanced terms fall short of the proposed Trinidad Terms. Obviously, the recovery of some of the poorest countries with unusually heavy debt loads is virtually impossible without writing off some of their official debt.

Is there any possibility that some multilateral debts, including the Bank's, might be written off at some point for the poorest of the poor?

The position of the multilaterals as preferred creditors has been institutionally important. The indebted countries own this institution. It is inconsistent for them to undermine the status of the Bank. There are three sound reasons why the Bank should not get into the business of writing off or rescheduling its loans. First, it tries to help countries restructure their economies and work their way out of debt by providing them with investment and structural adjustment loans. This allows countries to undertake economic reforms and grow out of their difficulties. Second, Bank claims are a relatively small part of the debt- service obligations of the middle- and low-income countries. Third, IBRD loans are funded by borrowings in the world's capital markets. The Bank's ability to raise money in these markets is affected by its high credit rating there. Reschedulings or write-offs would undermine that rating and add to the Bank's borrowing cost. This, in turn, would increase the cost of Bank loans to its borrowers.

We can certainly do what we can to relieve the burden. The IDA Debt Reduction Facility, for example, helps severely indebted low-income countries reduce their long-term commercial debt. We set aside $100 million from IBRD net income for grants of $10 million to countries with appropriate adjustment programs and debt strategies in place to help them buy back debt or to discount exchanges of commercial bank debt. Bilateral donors have also helped provide grants in support of the facility. Grants from France and Switzerland combined with funds from the IDA Debt Reduction Facility, for example, helped Niger almost completely eliminate its $111 million external debt.

Donors and creditors have agreed to extend for a second three-year term the Special Program of Assistance for debt-distressed low-income countries in Sub-Saharan Africa undertaking adjustment programs.

MILITARY SPENDING AND GOVERNANCE

A topic that has been much in the public debate in the last few years has been military spending within the rubric of unproductive spending. Your predecessor spoke on this. Mr. Camdessus, the IMF Managing Director, has spoken on this. Is this something that concerns you too?

That excessive military spending is unproductive is a pretty good rubric, and hopefully the events of the last year will enable both industrial and developing countries to declare the famous "Peace Dividends." But I concur with Barber Conable and Michel Camdessus on the importance of getting a proper balance between funds for development and funds for military purposes.

It seems clear to me that better governance gives countries a better chance to use development assistance successfully.

The Bank recognizes the legitimacy of military expenditures for sovereign countries, especially those that face external or internal threats to their security. It is a government's sovereign right to decide on such matters, but it is equally important that institutions such as ours focus on the most economic and efficient use of resources. As a result, our discussions with governments that need to pay attention to serious imbalances in their allocation of resources to unproductive expenditures will continue.

You mentioned earlier in the comments on Africa the question of governance. Why is this important in your view?

My direct experience is limited. But, what one sees in the new democracies are the advantages of transparency: the advantages of policies that prepare people for the adjustment process, that enable governments to make provisions for the least advantaged by providing safety nets of one kind or another. It seems clear to me that better governance gives countries a better chance to use development assistance successfully. Good governance is very important to the development process.

You cannot have effective and long-lasting development in a situation characterized by maladministration or general unrest. The Bank's mandate, through its Articles of Agreement, is to promote sustainable economic and social development, and its concern for governance is guided by that mandate. The Bank does not, nor can it, interfere in a country's internal political affairs. It does not advise on the kinds of political structures that countries ought to have.

Yet, the Bank can help improve governance. It can help improve public sector management. It can ensure economic and financial accountability through reviews of public expenditures and encouraging the efficient use of resources in public investment programs. It can institute predictability in its operational work within countries so that rules and regulations are clear and applied evenhandedly.

ENVIRONMENT

Another issue on which discussions now are quite frequently held with borrowing countries is the environment. The Bank is, of course, under constant attack from critics who feel it hasn't done enough and yet some borrowers feel that this is becoming yet another onerous condition on Bank lending. How do you hope to strike a balance between these two views?

I'm interested in your comment about the borrowers' view because, on the contrary, I have been enormously impressed by the understanding on the part of borrowers that these two issues, development and environment, are interrelated and in many cases mutually reinforcing. One of the pleasant surprises in coming into this job was to find that the tension between development and the environment is considerably less than I had anticipated.

To aid understanding of the complexities involved in the issue, we have made environment and development the subject of this year's *World Development Report*. The major lesson that emerges from this enterprise, which, incidentally, involved our own experts and experts from around the world, is that there is no choice between preserving the environment or promoting development. You cannot have one without the other.

What expectations do you have for the Rio de Janeiro "Earth Summit"?

The preparatory meetings have been discouragingly emotive. The expectations of some participants may well have been unrealistic, but, I hope that these will have been rethought and recast by the time of the conference. We, in the Bank, are looking forward to the UNCED meetings in a constructive manner. We will present the fruits of our work on the *World Development Report 1992* and our project experience.

The Global Environment Facility (GEF), in which the Bank is an important participant, has an important role to play here. It is far wiser to have the same institution looking at both national environmental issues and international issues. We hope the Earth Summit will bring about a more enhanced role for the GEF which, until now, has been in a pilot phase.

IDA 10 AND IFC

On IDA and negotiations underway for the Tenth Replenishment, do you hope to get a real increase this time?

We must get a real increase. With eight new eligible countries since IDA 9 and a couple of countries waiting in the wings—Vietnam and Cambodia—who will be eligible, and maybe two or three Central Asian Republics, the needs are going to be great.

The resource requirements of IDA 10 are going to be every bit as onerous as the resource requirements of IDA 9, so we really do need an increase—a real increase.

Do you think the emphasis will still be on the United States playing the lead role in this, or will Japan and Germany be expected to take over that part?

It is still early in the discussions. Obviously, the budgetary stringencies facing some of the major donors are real. On the other hand, the demands are real and I sense in Europe and Japan a realization that IDA is a very efficient and useful way for them to make a contribution. I am hopeful that the United States, Europe, and Japan will all make significant increases to their IDA contributions.

IFC has been much in the public eye, particularly since the Bank itself has been involved with private sector operations, and you have tried to integrate the operations of the Bank and IFC to some extent. Will IFC continue as part of the World Bank Group or could it be spun off as a separate autonomous entity?

No, I see almost the reverse in the sense that the complementarity between IFC's activities and the Bank's have become even more important than in the past. The coordination that will be required between the two institutions has increased rather than decreased. I would think it pretty unlikely that we would spin off IFC.

LOOKING AHEAD

Looking to the future—five years from now—how would you like people to characterize the Preston era at the World Bank?

I am not sure that I would seek or want that sort of a characterization for an institution as complex as this one. I would like the world to think that the intellectual leadership for development continued to flourish in the institution and that the new diversity caused by the geographical spread of our membership was served in a timely and thoughtful way. To go from the special skills that are required in Africa to those required in, say, the Russian Federation, is going to take a diverse and agile Bank. This is a great challenge for me and my colleagues here, and I hope we can deliver on it. ■

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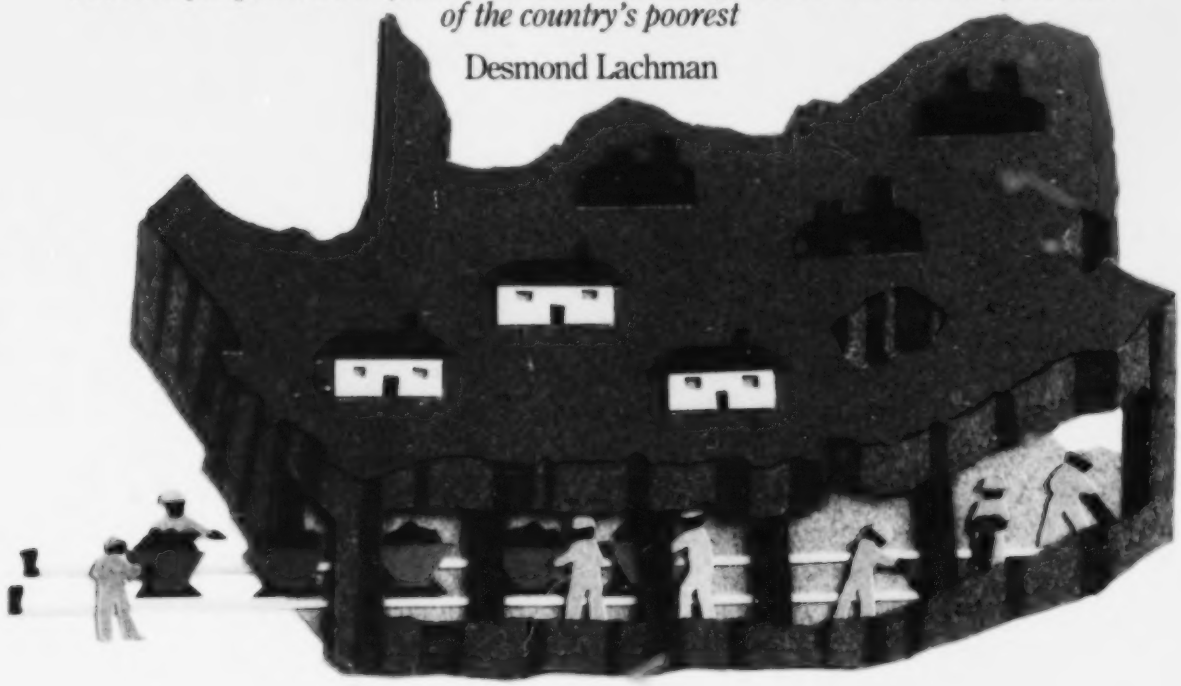
AIR

Economic Challenges Facing South Africa

The need for policies that foster redistribution with growth to address the problems of the country's poorest

Desmond Lachman



Following the remarkable changes in South Africa's political climate since the February 1990 release from prison of Nelson Mandela, there has been a growing public debate over the future political and economic structure of the country. The dismantling of the apartheid system and negotiations between the ruling white minority and representatives of the majority black population have focused attention on the enormous economic imbalances between the races and underscored the need to address the problem of poverty and maldistribution of income. For while South Africa's overall per capita income is estimated at around $2,300, making it a middle-income country, a large proportion of its nonwhite population—who represent some four fifths of South Africa's 35 million population—has an average per capita income that is about one quarter that amount. This much lower standard of living for nonwhites is also reflected in their lower life expectancy, higher infant mortality, and lower literacy rates.

The amelioration of poverty in the years ahead, therefore, will need to be high on the political and economic agenda of the new South Africa. However, the extent of poverty in the country is severe. This suggests that redistribution policies alone will not be sufficient to conquer it. Rather, South Africa needs to move to a path of redistribution with growth sufficient to generate the resources necessary to satisfy the longer-term needs of the least privileged sectors of society. This article, which draws on a recently issued IMF staff study (see box), analyzes the difficult choices with which any future Government in South Africa will be confronted as it attempts to improve income distribution while promoting economic growth.

This article is based on Economic Policies for a New South Africa, *edited by Desmond Lachman and Kenneth Bercuson, IMF Occasional Paper Number 91, available from IMF Publications Services, $15.*

Poverty in South Africa

South Africa's per capita income is skewed along racial lines and also along the urban-rural divide, with most of the poor living in the countryside, often in the "homelands" reserved for the native black population. There is a sharp contrast in social indicators, with the extreme poverty of the latter group (see Table 1) typical of most Third World countries, clashing against the First World living standards enjoyed overwhelmingly by the white minority. This is also reflected in the more standard measures of income distribution, such as the Gini coefficient. These latter measures indicate, for example, a Gini coefficient for South Africa of the order of 0.55, suggesting an income distribution that is among the most imbalanced on record.

In the 1970s, the black population made some progress in catching up with the living standards of the white population by moving to the economically active sectors and regions of the economy. In many respects, this was

the result of the vigorous growth of the South African economy and its concomitant labor shortages, which enabled blacks not only to increase their employment but also to unionize and thereby to achieve real wage increases. At the same time, as various discriminatory labor practices toward the end of the 1970s were eased—such as the phasing out of the reservation of skilled jobs for whites and the elimination of influx control (that regulated entry of blacks into "white areas")—the "wedge" or difference between white and black wages for jobs requiring similar skills was reduced. Thus, whereas whites were paid almost double the wages that blacks would receive for the same job in the mid-1970s, the differential has now declined to around 15 percent.

The 1980s saw a decline in the rate of South Africa's economic growth brought about by a worsening in the investment climate, as a result of heightened political uncertainty and the imposition of international financial sanctions against South Africa. This particularly curbed black employment and wage growth and slowed the earlier trend toward income equalization. A fundamental feature of the economic downturn was a decline in the ratio of investment to GDP by around 5 percentage points in the mid-1980s, when South Africa was shut out from foreign capital markets and moved from being a net importer of foreign capital to being a net repayer of foreign capital. GDP growth slowed to about 1.5 percent a year in the 1980s, well short of the 2.5 percent a year growth in the population. This slower growth raised the proportion of the economically active population that was without employment opportunities in the formal sector of the economy, from 25 percent in the mid-1970s to about 42 percent by the end of the 1980s.

The question facing South Africa now is: How to revitalize the economy, while reducing the gross inequalities of income and economic opportunity that currently exist within its economy? The answer to this question would appear to lie in the crafting of sound economic policies and reorienting of budgetary priorities. How well this is accomplished and how soon will determine the success of not only the current government but also any future government emerging out of the political dialogue that is now underway.

Table 1
Selected social indicators in South Africa in the 1980s

	White	Colored	Asian	Black
Life expectancy at birth (In years)	69.5	58.6	65.5	58.5
Rates of adult literacy (In percent)	99.3	84.5	92.4	67.0
Infant mortality (Deaths per 1,000 live births)	13.2	57.5	17.4	57.4

Sources: *Official Yearbook of the Republic of South Africa*; and Department of National Health and Population.

Table 2
South Africa: medium-term scenario for 1991–2000
(In percent, unless otherwise indicated)

	Average 1981–90	1990	Scenario average 1991–2000
Real GDP growth	1.4	–0.9	3.5
Employment growth	0.7	–0.4	3.0
Nonwhite underemployment rate[1]	41.7	41.7	36.6
Real wage growth	1.4	1.9	0.7
Investment share of GDP	23.0	19.3	24.8
External current account as percentage of GDP	0.4	2.2	–1.7
Private savings as percentage of GDP[2]	23.6	20.9	21.5
Government savings as percentage of GDP	–0.2	0.6	1.6
Government revenue as percentage of GDP	25.5	28.5	29.6
Government expenditure as percentage of GDP	28.1	29.7	30.3
General government balance as percentage of GDP	–2.7	–1.2	–0.7
Current government expenditure per capita, 1990 Rand[1]	2,372	2,372	2,568

Source: Staff estimates.
[1]Estimated value at end of period.
[2]Includes the savings of public corporations and public business enterprises.

Medium-term growth scenario

The trade-off between redistribution and growth confronting policymakers in South Africa can best be brought out by an illustrative medium-term scenario of the sort presented in Table 2. The model used to generate this scenario is based on two key elements: (1) a simple production function relationship between inputs (e.g., capital and labor) and the output of the economy, and (2) a savings-investment accounting framework that focuses on the mobilization of resources by different sectors of the economy necessary to finance any level of capital accumulation.

It is assumed in this model that as South Africa regains fuller access to both international financial markets and to improved international technology, multifactor productivity would rebound to a rate of increase of around 0.5 percent a year after having declined at a similar rate over the past decade. Moreover, it is assumed that as international financial sanctions are removed, South Africa, rather than repaying capital at the current rate of 2-3 percent of GDP, would experience an external capital inflow of around 1.75 percent of GDP a year over the rest of the 1990s, which would be somewhat below that experienced prior to South Africa's having been shut out from the international capital market. In view of the likely overall *ex ante* shortage of global savings and the demands on these savings from Eastern Europe and the Middle East, however, South Africa would need to create an attractive investment climate to win its share of foreign savings through the pursuit of sound domestic macroeconomic policies (particularly the control of inflation and

the opening up of the economy to trade and investment).

Irrespective of future population growth, South Africa's labor force is set to grow at an annual rate of around 2.5 percent over the next decade. Economic policy, therefore, would need to aim for economic growth of at least 3.5 percent a year if overall living standards are to be improved and if black underemployment is to be reduced from its present high level. The analysis suggests that such a rate of economic growth could only be sustained through a marked improvement in investment performance. Specifically, the ratio of investment to GDP would need to rise steadily from its present level of 19 percent to around 27 percent by the end of the decade.

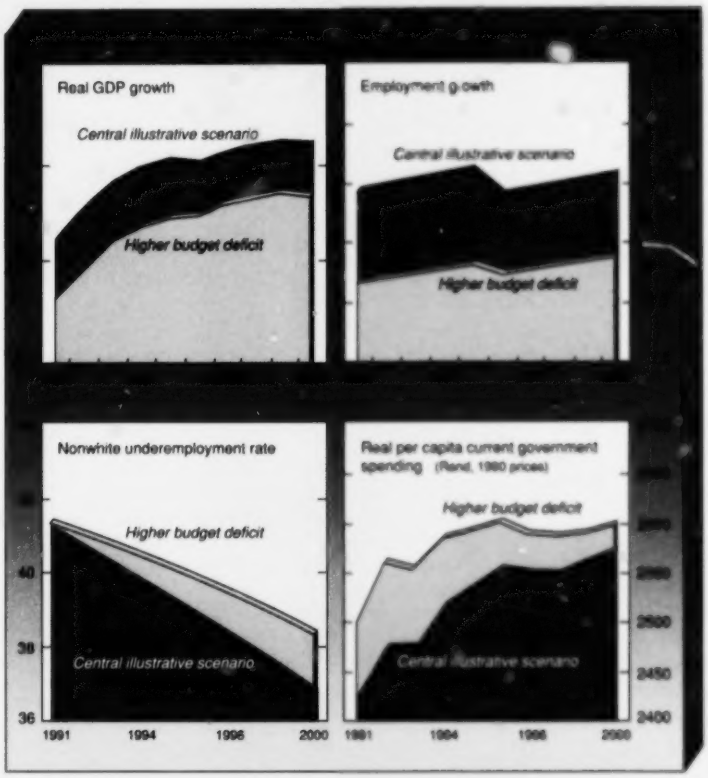
A significant portion of the required increase in investment could be financed from capital inflows from abroad provided sound domestic policies were followed. However, the increased access to external savings would need to be supported by a continued effort to maintain domestic savings. Even if the private sector savings ratio were to rise moderately to 21.5 percent, the public sector would still need to produce savings of roughly 1.5 percent of GDP a year, a considerable improvement over South Africa's performance over the 1980s.

The need to maintain public savings at this relatively high level has clear implications for public spending policy. As discussed more fully below, in view of the limited scope for raising the overall tax burden beyond its present level, public spending of a nonproductive nature over the medium term would need to be constrained. This means that efforts to ameliorate poverty and create better economic opportunities for the hitherto underprivileged black population would need to rest mainly on a redirection of budget priorities. With GDP growing at a faster rate than the population, the maintenance of a constant ratio of public spending to GDP would nonetheless mean a marked increase in government spending per person over time.

If the budget deficit were to increase as a result of increased public spending that was not of a productive nature, it would reduce the resources available for social development and thus slow down economic growth. An increase in government current spending equal to 1 percentage point of GDP, without an offsetting increase in savings in the private sector, would produce a corresponding decline in overall investment of 1 percentage point of GDP. The consequently lower rate of capital accumulation would in turn mean that both output and employment growth would be reduced by 0.3 percentage points per year. As a result, less progress would be made in reducing black underemployment (see charts). The higher ratio of public spending to GDP would, over time, translate to a level of public expenditure only somewhat higher than in the case where the ratio of public spending to GDP was lower, since the economy would now be smaller in size.

South Africa: medium-term scenario

(In percent)



Source: South African Reserve Bank, *Quarterly Bulletin*.

Budgetary policy options

To foster economic growth, budgetary policy in the new South Africa will need to maintain an adequate level of public saving. In other words, increases in overall public spending will need to be matched by corresponding increases in government revenues. In framing revenue policy, however, the government will have to consider carefully the so-called disincentive effects (whereby an increase in taxes may push people to work less or to reduce their saving, thereby producing less revenue for the government), as well as the need to create a favorable domestic environment for foreign investment.

At approximately 24 percent of GDP, South Africa's overall tax burden appears to be above the average for countries at a similar stage of development. Indeed, if one were to confine one's attention to the narrow stratum of society that currently pays the overwhelming proportion of taxes, one would draw the conclusion that the South African tax burden is already more at the level of the industrial countries. This is also apparent from the current high marginal income tax rates of 42 percent at the top end of the scale, as well as from a corporate tax rate of 48 percent. Accordingly, the effort to raise tax revenues would need to focus less on raising tax rates than on reducing tax exemptions and allowances, broadening the tax base, and changing the mix between direct and indirect taxes.

The scope for redirecting public spending to alleviate social backlogs appears to be relatively large in South Africa, since the country already spends a sizable proportion of its GDP on the social sectors. Overall, social spending in South Africa is about 14 percent of GDP, close to the average for countries at its stage of development. Moreover, public spending on education and health, at 6 percent of GDP and 3.5 percent of GDP respectively, is comparable to that in the more industrialized countries.

Yet, the relatively high level of overall social spending in South Africa is accompanied by a very wide disparity between the different race groups, despite the fact that such spend-

ing on whites declined significantly in the 1980s. Thus, while per capita education spending on a white child currently is around R 4,100, that on a black child barely averages R 900. Similar differences, some less marked than others, characterize official spending on health, social security, and housing.

Considerations of equity would suggest that budgetary policy should aim as a minimum to equalize public social expenditures per capita between the different racial groups. However, raising such expenditures to the present levels for the white population would clearly be beyond the capability of the budget. Thus, for example, to equalize education spending at the present per capita white level would require expenditure of over 15 percent of GDP on education alone. From an economic point of view, this is clearly not a feasible proposition, irrespective of what the public's aspirations might be.

By contrast, equalizing social spending at the current average per capita level would provide substantial social benefits to the least privileged sectors of the country without compromising the government's budget or long-term social and economic development. Again, taking educational spending as an example, equalizing this spending at the current average of R 1,400 per child would produce a 50 percent increase for the black community. Similar improvements could be made for the black community by equalizing other categories of social spending at their average levels. The political difficulties of effecting such an equalization process are, of course, not to be minimized, since it would involve reductions of between 40 and 70 percent in the current level of public sector per capita social spending on the other racial groups, particularly the whites.

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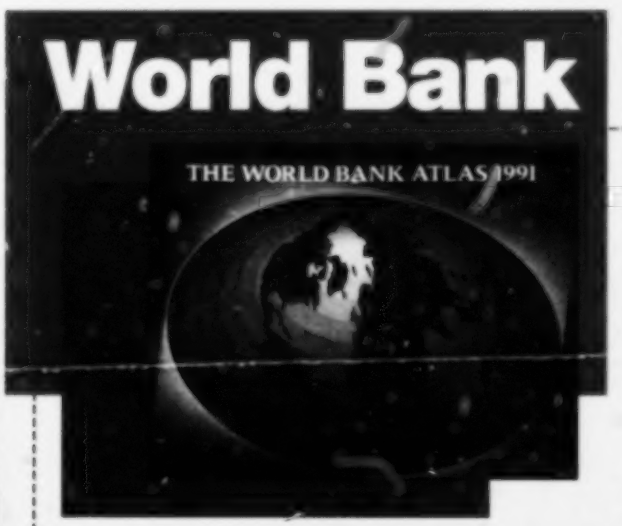
Challenges for policymakers

The basic goal of social upliftment in the new South Africa will pose fundamental challenges to budgetary policymakers. In this respect, difficult choices will need to be made between more social spending now and better prospects for economic growth and for future social spending. In light of the broad-based nature of poverty and the very high levels of unemployment and underemployment from which the new South Africa will be starting, and given the prospective rapid rate of growth in the labor force, it is important that policies that promote long-term sustainable economic growth are emphasized over those that aim for shorter term but transient results. ■



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Transforming Poland's Economy

Early experience after the "big bang" of 1990

Timothy D. Lane

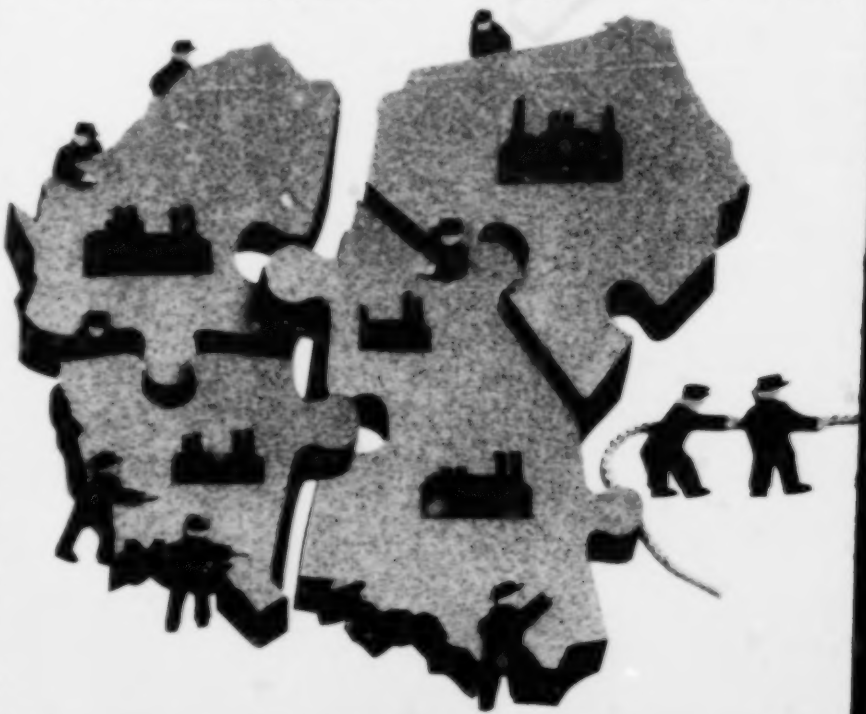
In January 1990, Poland embarked on a bold program of economic reform designed to stabilize an economy whose situation was rapidly deteriorating and to move toward a market economy. The stabilization objectives of the program were highly ambitious in themselves, aiming to bring inflation down abruptly from near-hyperinflationary levels. The attempt to build a market economy had few historical parallels in its scope and rapidity. Combining these two objectives demanded considerable boldness.

Because Poland was the first socialist country to adopt such a radical program of stabilization and reform, its early experience is of particular interest to other countries contemplating market-oriented reforms, especially the former republics of the Soviet Union. Although even now the situation remains too fluid to permit an overall assessment, this article attempts to provide an account of the program and an explanation of the course of events during its fiscal year.

Background

The Poland of 1989 was not a textbook case of a centrally planned economy. Although most productive activity remained in state hands, the private sector accounted for more than a quarter of economic activity, including most of agriculture. Reforms undertaken during the 1980s dismantled the structure of central planning and increased the autonomy of the state enterprises—leading to a situation that was "neither plan nor market," that is, an economy in which enterprises were subject to neither the control of the central planner nor the discipline of the market. The increased economic efficiency that the authorities had hoped would result from the reforms did not materialize, and shortages of many goods and materials persisted.

In 1989, the Polish economy had reached a state of crisis. A "wage-price maneuver"—price increases accompanied by a smaller wage increase—early in the previous year had not only failed to correct economic imbalances as intended, but also triggered a wage-price spiral. By mid-1989, monthly inflation rates were close to double digits, labor unrest was mounting, the state budget deficit was burgeoning—the result of flagging tax revenues and expenditure overruns—and the external current account was deteriorating sharply. In the face of worsening food shortages, the government decided in August to liberalize prices of most food products. As a result, food prices more than doubled in a single month. External debt also remained a major problem. The debt, which had had to be rescheduled for the first time in April 1981, had accumulated through the 1980s, as interest was capitalized—reaching $40.8 billion,



nearly five times Poland's annual exports in convertible currencies, by the end of 1989.

The critical economic situation, together with electoral setbacks, led the communist government to embark on the Round Table discussions to determine the country's political future. These talks, which began in April 1989, included representatives of Solidarity and other political parties. In September, the coalition government, in which Solidarity was accorded a major role, gained power; this government—the first in decades to enjoy broad popular support—had to devise a new set of economic policies. It decided to try to stabilize inflation quickly and, at the same time, begin a radical transformation to a market economy.

Early results of the program

The program that was adopted combined monetary and fiscal stringency with other measures: the exchange rate was fixed as a nominal anchor; wage increases were limited to less than inflation; prices of many producer and consumer goods were freed, with substantial increases in administered prices, notably energy prices; the zloty was made convertible for trade in goods and nonfactor services; most trade restrictions were dismantled; and the authorities initiated a number of structural reforms, including the breakup of monopolies, privatization, and financial system modernization.

The early results of the program were nothing if not dramatic. Inflation was brought down successfully from the verge of hyperinflation, after an initial corrective price jump—80 percent in January 1990—but then lingered at levels around 5 percent monthly for most of the year. Measured real wages decreased sharply (see Charts 1 and 2). But what was more astonishing and a source of deep concern was the dramatic drop in measured output—by 30 percent in the first half of 1990 compared to the level a year earlier. Naturally such a situation begged an explanation, but, as discussed later, there were no clear or immediate answers on how this output decline should be interpreted. Two favorable developments in the program's financial performance—the surprising improvements of the government budget and balance of payments—made it easier for the authorities to continue with the program: Both the external account and the budget swung from deficit into a sizable surplus (see Charts 3 and 4).

Chart 1
Retail price inflation
(Percent per month)

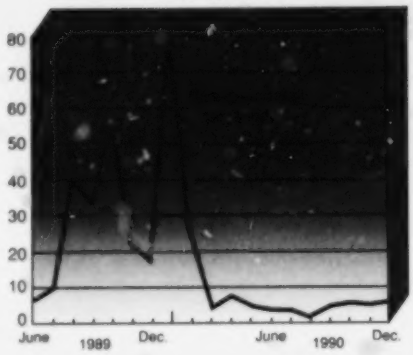


Chart 2
Real wages
(June 1989 =100)

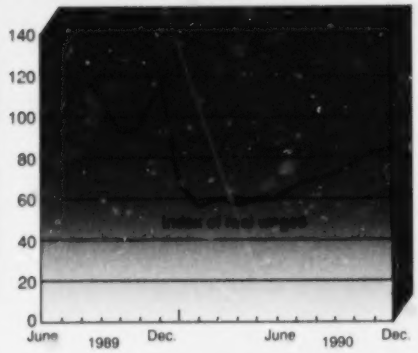


Chart 3
Balance of payments
(In convertible currencies; in millions of US dollars)

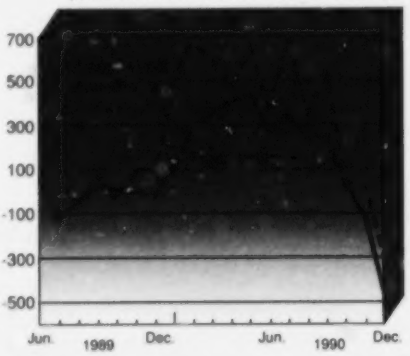
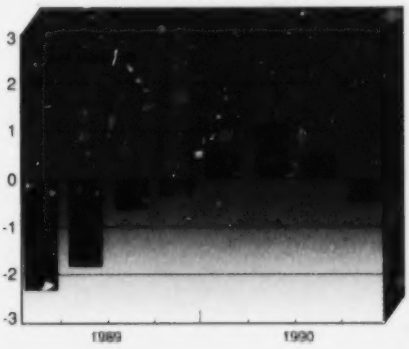
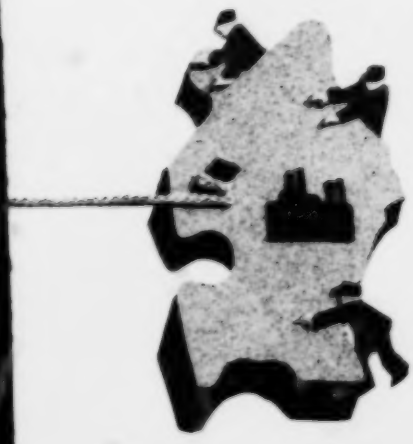


Chart 4
Government budget balance
(In trillions of June 1989 Zlotys)



The transformation to a market economy also began. Shortages disappeared; instead, there was talk of firms "hitting the demand barrier." Seventy percent of retail outlets were sold off to private individuals, as were most of the trucks used for road transport. There was also a surge in informal private trading activity. Street markets sprang up, offering consumers an ever-expanding range of products.



This article is adapted from the author's IMF Working Paper WP/91/70, "Inflation Stabilization and Economic Transformation in Poland: The First Year," available from the author.

The early attempts at structural reform were encouraging, but also revealed the enormous practical and political difficulties in store. A privatization law emerged after prolonged parliamentary debate and compromise, setting the ground rules for privatization of enterprises by public share offering. An antimonopoly office was established and set to work addressing a broad agenda of breaking up the monopolies assembled by the central planners, as well as responding to complaints about monopolistic practices; its resources, however, were tiny in relation to its agenda. A program of financial sector modernization was begun, but the solvency of banks remained in doubt. Clearly, even with widespread agreement that the general direction of reforms should be toward a market economy, determining the details of these reforms would be a politically charged process, and one whose results were fraught with uncertainty.

Mid-year shift

The Polish economy changed direction around the middle of 1990. This was partly

because there was mounting pressure to "reactivate the economy": interest rates were cut, and an unlimited amount of credit was provided at preferential interest rates to finance the harvest; government expenditures that had been held back earlier in the year were resumed; and the wage control law was softened. In addition to these explicit policy changes, some automatic forces were at work. The wage control law, which stipulated a cumulative wage norm, permitted wages to recover some of the ground they had lost earlier in the year; the zloty appreciated in real terms, as the exchange rate remained fixed against the US dollar and inflation continued; and the budget, which early in the year was boosted by tax revenues accruing from temporarily high enterprise profits, began to weaken as this temporary boost ended.

As a result, inflation resurged, bouncing back from below 2 percent monthly in August 1990 to average 5.5 percent monthly over the fourth quarter. There was also a small increase in industrial output, which was about 4 percent higher in the second half of the year than in the first half. By the end of 1990, inflation stabilization was still incomplete, while the level of economic activity (as measured by real GDP) was an estimated 12 percent lower than the previous year.

The financial program

At the core of any successful stabilization program is a solution to the fiscal imbalance that is being financed through inflation. In Poland, fiscal adjustment was complicated by some particular features of the economy. To begin with—as is typical in socialist economies—the tax base consisted almost exclusively of the state enterprise sector: taxes and transfers from the state enterprises, including banks, amounted to about 90 percent of the revenues of the state budget. This meant that the profitability of the state enterprises was the key to fiscal balance. A second element was the enormous quasi-fiscal expenditure, namely the large implicit subsidies provided to enterprises by banks' lending to them at negative real interest rates. Both fiscal and quasi-fiscal expenditures had to be financed by tax revenues and seignorage.

The logic of the financial plan for 1990 was as follows. There was a large cutback in government spending, particularly on subsidies. Interest rates were moved to levels projected to be positive in real terms, with the intention of eliminating the implicit interest subsidy. Revenue measures were carried out, with a view to increasing tax revenues from a given tax base. Another crucial element of the fiscal equation was the incomes policy—restraining wages would increase enterprise profitability and thus raise tax revenues. Together, the program was intended to bring the budget from a large deficit into approximate balance, while stopping the erosion of the real value of zloty money associated with seignorage.

In the event, the performance proved better than expected. Three circumstances played an important role. For one, the higher-than-expected initial inflation resulted in capital gains for the enterprises on their inventories, which led to higher tax revenues. A second element was interest rates: In January 1990, banks raised lending rates to as much as 55 percent monthly, compared with the National Bank's refinance rate of 36 percent. Since deposit rates stayed much lower, the spread gave the banks huge (taxable) profits. A third surprise element was wage policy. As the wage control law limited wage increases to 30 percent of the increase in the cost of living in January 1990 (and 20 percent in February through April), the unexpectedly high initial inflation resulted in an unexpectedly steep drop in real wages. The extent to which this real wage decrease reduced workers' real consumption possibilities is debatable, since shortages of consumer goods were eliminated at the same time. What is not disputed is that it helped raise the enterprises' taxable profits.

At the core of any successful stabilization program is a solution to the fiscal imbalance that is being financed through inflation. In Poland, fiscal adjustment was complicated by some particular features of the economy.

The unexpected budget surplus of the first few months of 1990 could not last, however. The extraordinary capital gains on inventories were a one-time event, which ended as inflation was brought down. The spreads between banks' lending and deposit rates shrank as the overall level of interest rates fell with inflation, and as households shifted a larger fraction of their money holdings out of foreign currency deposits into zloty-denominated deposits bearing higher interest rates. Wages also recovered strongly, rising 42 percent in real terms in the second half of 1990, and this lowered enterprises' profits. In the second half of 1990, the state budget recorded a slight deficit.

The output collapse

During 1990, the most widely quoted economic figure in Poland perhaps was the decline in output sold by state enterprises—about 30 percent in early 1990 relative to the same period a year earlier. Opinions on how to interpret this output decline differed widely—ranging from the view that it signaled an economic catastrophe to the view that most of the output eliminated was essentially "scrap." The alternative interpretations imply divergent views on what lessons should be drawn.

Measurement problems. It is widely agreed that these output figures cannot be taken at face value. To begin with, January 1990 saw a move from a shortage economy to an economy in which markets were clearing. Many goods of poor quality or unsuitable specification that could be sold in a shortage economy, due to spillovers of unsatisfied consumer demand, could no longer be sold once the shortages were eliminated. For some products, value added may actually have been negative, because of their poor quality and the wasteful use of energy and other inputs in their production. Eliminating output of such products would actually be beneficial. Moreover, the official output statistics cited included only the state enterprises, an important omission at a time when the private sector was growing by leaps and bounds.

Demand side contraction. Many economists, while accepting that the output decline was not as large as officially recorded, have recognized that there was some decline and have sought to explain it. To begin with, disinflation generally results in some decline in output. This effect is often attributed to a demand-side contraction, given price stickiness and sluggish expectations; price stickiness might have been particularly important in the Polish context due to nonprofit-maximizing behavior by state enterprises, while the adjustment of expectations might have been delayed by the public's (understandable) lack of complete credence in the success of the stabilization program. For these reasons, a reduction in the rate of monetary expansion did not immediately result in a proportional reduction in the inflation rate, but in some persistence of inflation and in some temporary decline in real output. This view would also be consistent with the observed improvement of the trade balance and with the temporary decline in money, and therefore credit, in real terms.

Credit crunch. An alternative way of viewing Poland's output contraction is the idea of a "credit crunch." Some economists have argued that the real contraction in credit in early 1990, resulting from tight control of nominal credit expansion together with the large price increases, was so severe that it impaired enterprises' ability to continue financing their productive activities. This is a supply side explanation, in contrast to the view that a demand-side contraction was at work. Real bank credit did fall sharply in the early months of 1990, continuing a trend from the latter part of 1989; this largely reflected the usual effect of inflation in demonetizing the economy.

Another way of viewing the same developments, however, is that inflation was erasing enterprises' debts in real terms; the resulting capital gains, augmenting enterprises' own resources, partly offset the decrease in the real credit. The decline in credit in early 1990 may also have been from an artificially high level that reflected enterprises' borrowing to purchase materials in anticipation of price increases. Moreover, over 1990 as a whole, credit actually increased in real terms, but the drop in output persisted. Therefore, although credit may have played an important role in the 1990 developments, it is hard to believe that the real contraction of credit in January 1990 was the main factor responsible for the output decline.

Monopoly power. Other authors have focused on the role of monopoly power in the state enterprise sector, arguing that freeing prices enabled enterprises to exercise their market power, cutting output and raising prices. This argument should not be driven too far, however. Enterprises producing tradable goods but having a domestic monopoly would not cut back their production, but only channel more of their total output into exports. Moreover, in cases where prices had initially been fixed below the market-clearing level, so that there were shortages, even a monopolist's response might be to increase both price and output. Finally, it should be noted that the freeing of prices in Poland was not an abrupt move in January 1990, but a stepwise process—in contrast to the decline in output, which was abrupt.

Other factors. Another potentially important factor is the collapse of trading arrangements in Eastern Europe and the disruptions in other countries in the region. In 1990, their impact on Polish exports was offset by various subsidies, so the volume of exports to countries actually rose by 15 percent from 1989 to 1990, but in 1991 these developments had a strong negative effect on the Polish economy. The decline in output was also prolonged by the need for myriad adjustments, at the microeconomic level, from a shortage economy to one in which the "demand barrier," as well as the risks associated with the possibility of bankruptcy, are relevant.

Policy implications

Debate continues on which of these explanations of the output decline carries the most weight. These explanations have important implications for whether the program should have been designed differently, and thus for whether other countries should avoid similar policies. The credit crunch explanation suggests that credit was so tight as actually to hinder the stabilization of inflation; the monopoly explanation suggests that inflation stabilization should perhaps have been postponed until vigorous measures to break up monopolies had been undertaken. Some output decline is to be expected from disinflation in any country, though, and in Poland, this might have been exacerbated by the unusual rigidities of the existing economic system. In addition, economic and social adjustment costs are inevitable with such a major economic transition and some decline in measured output would result simply from eliminating shortages. A more gradual stabilization might have reduced the output decline somewhat, but might also have prolonged the high inflation: a rapid approach to stabilization may have been needed to create the perception of a genuine change in policy regime and break the cycle of inflationary expectations. Faster progress with structural reforms, however, could help reverse the output decline, by creating a framework in which new economic activity can emerge.

Challenges ahead

The achievements of the first year of the program were considerable. They included a substantial reduction in inflation and the end of shortages; the correction of budgetary imbalances; the convertibility of the zloty for trade purposes and substantial liberalization of trade; rapid expansion of private sector activity; substantial progress in demonopolization and small-scale privatization (notably in retailing, road transport, and food processing); and early steps toward the privatization of large state enterprises. These achievements seem modest only in relation to the program's extremely ambitious goals and to the immense tasks that lie ahead. By the end of 1990, there were continuing sources of anxiety, notably the persistence of inflation; the severity of the output decline in the socialized sector; the emergence of unemployment, which reached 8 percent of the workforce excluding private agriculture by the end of the year; the transitory nature of some factors that had aided fiscal adjustment; and emerging signs of popular impatience with the program.

The events of 1991 have heightened fears about the successful continuation of the program. The disruptions in the Soviet economy and the breakdown of trading arrangements in Eastern Europe led to a slump in the sheltered sector of the economy that had specialized in selling to the Soviet market. This also had larger than expected spillover effects on other sectors of the economy. The decline in the economy's GDP over the two years 1989–91 reached an estimated 20 percent. Enterprises also turned out to be less profitable than had been apparent, with the ending of the transitory factors that had increased their profits; many teetered on the edge of bankruptcy, and the revenues of the state Treasury fell off sharply. The reform program began to falter—notably, the plan for mass privatization of 400 enterprises was delayed as the authorities feared that many of the enterprises were not viable and sought to avoid the social consequences of mass shutdowns of newly privatized firms.

In the wake of the shocks affecting the fiscal position, it was difficult to reach agreement on a new plan of fiscal adjustment toward an agreed target path, and this in turn made it impossible to maintain other aspects of the stabilization program. In early 1992, the Government faced a dilemma between calls to stimulate the economy through increased spending and concerns that the resulting budget deficits would re-activate inflation.

The road ahead is a long and uncertain one. Even the progress that has been made so far is in jeopardy. Given the shocks that have occurred, a resurgence of high inflation is possible; there is also pressure to slow down the pace of reform, and in some instances to reverse it. Maintaining the momentum toward a market economy, without renewed inflation, will require political cohesion, as well as considerable patience. ■

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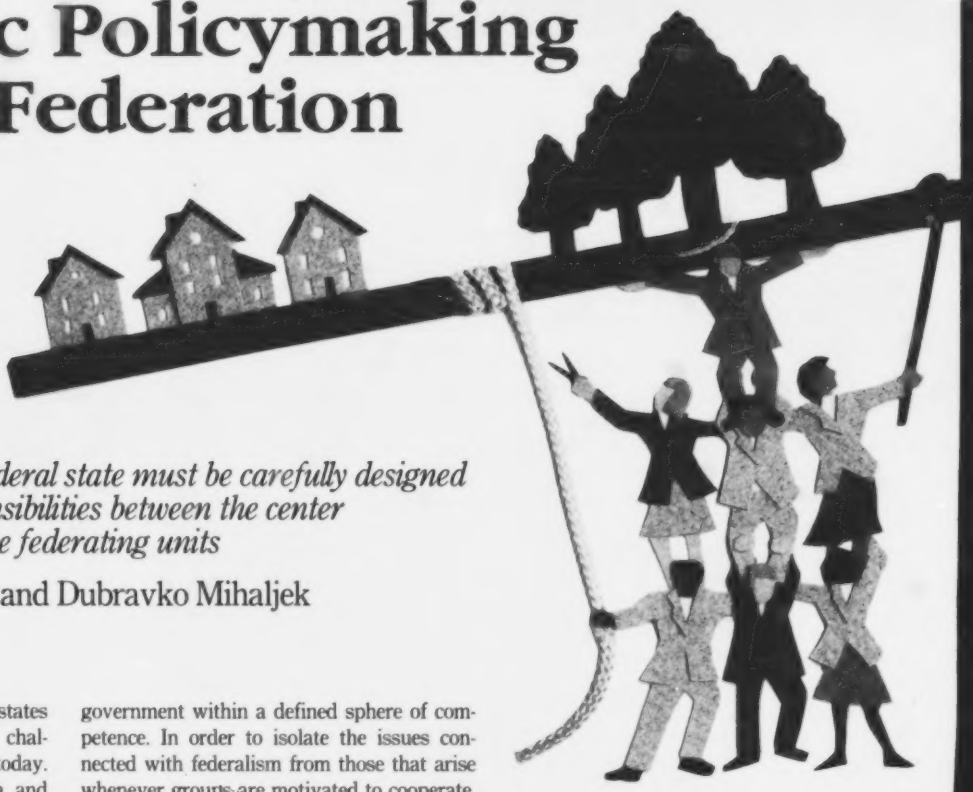
Economic Policymaking in a Federation



Policy-making rules in a federal state must be carefully designed to balance responsibilities between the center and the federating units

Daniel Hardy and Dubravko Mihaljek

The traditional structure of unitary states and centralized federations is being challenged in many parts of the world today. Federations such as the Soviet Union and Yugoslavia have disintegrated, regions in various other countries are vigorously demanding greater autonomy or even independence, while some groups of countries are considering ceding new powers to supranational institutions. These splintering or coalescing movements, which everywhere occupy the newspaper headlines, have a profound effect on the daily lives of the people involved. Any major redistribution of responsibilities between different levels of government affects economic policymaking, and thus economic performance. Beyond economics, such actions have important political and social consequences.

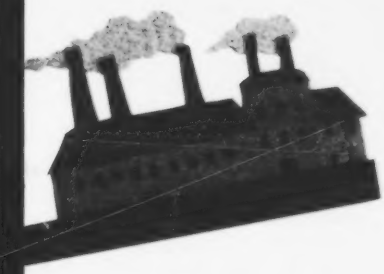
While some decentralization of administration and policymaking is found in almost every country, the powers enjoyed by lower levels of government in a federation are extensive and constitutionally enshrined. A very loose federation is often called a confederation, which may be defined as a lasting alliance of sovereign states that contribute regularly toward the achievement of common objectives. From an economic viewpoint, a federation can perhaps best be distinguished from a confederation by the existence of an important and powerful central government, which can impose its will on lower levels of government within a defined sphere of competence. In order to isolate the issues connected with federalism from those that arise whenever groups are motivated to cooperate, the ensuing discussion assumes the presence of a federal authority that enacts policies for the country as a whole.

A critical issue, therefore, is the balance of economic power between the center and the component regions, be they republics, states, or provinces. The underlying theme of our analysis is that the flexibility and the accommodation of diversity offered by a federal constitution may conflict with the need for stability, decisiveness, and equity. To contain this conflict and preserve a federation, at least some policy instruments, such as monetary and trade policy, must be reserved for the central government. The best allocation of other instruments is contingent on the economic structure of the country, its political traditions, and the degree of trust shown by regions toward one another and toward the center. It is, perhaps surprisingly, hard to find general principles along which to assign responsibilities and privileges such as access to borrowing, contributions by regions to the federal budget, and a system of transfers. A discussion of a sample of such topics will be used to illustrate the types of economic arguments that generally bear on the issue of federalism, given a framework of distinct regions united in a single state. An analysis of the historical process whereby regional and national allegiances are formed and perpetuated is, of course, beyond the scope of this article.

Decentralization: pro and con

Debates over federalism can be highly emotional, involving split loyalties, old grievances, and, sometimes, atavistic prejudices. Often lacking is a cool consideration of strong economic arguments for a greater or lesser degree of federalism.

One rationale for decentralized policymaking rests on the condition that, despite considerable common interests, regions differ significantly in terms of natural resources, industrial specialization, and preferences. A regional authority may be motivated to assist certain sectors that would be ignored under national, uniform policymaking, and to promote certain activities over others. It may also seek control over its education system and other institutions in order to preserve a distinct cultural or national identity. In Canada, for example, the demands of Quebec and the indigenous peoples for cultural autonomy are bound up with conflicts over claims to natural resources.



Decentralization may also improve the functioning of government by making it more responsive to the will of its constituents, and more concerned about the efficiency of its operations than a distant central authority. People tend to feel more involved and influential with regional government than they do with government in a far-off capital, and so regional government is likely to be better informed of people's wishes and better monitored. The nationalist movement in Scotland, for example, is motivated in part by a feeling that the Parliament in London will always be preoccupied with English concerns.

Further, regions have to compete with one another in attracting mobile factors of production, which may take the form of, say, new investment. Regional governments, therefore, have incentives to offer an appealing mixture of low taxes and high quality public services demanded by their constituents. Otherwise, they risk losing investors and productive families to other parts of the federation. Regions are certainly aware of this issue—even going so far as to take out advertisements in the press lauding their respective transport connections, cultural amenities, and so on.

But regional governments that ignore, exploit, or are simply unaware of the broader effects of their separate spending on public goods, deficit financing, and so on, may find that everyone in the country is made worse off by the lack of cooperation among the constituent units of a federation. Moreover, competition to offer lower taxes that attract mobile factors may leave regional governments with too few resources to fund adequate public services and may distort the tax system so that immobile factors are overly burdened. Conversely, regional governments may feel little need to devote resources to "public goods," for example, the prevention of pollution that may be borne away to others by air and water. Even though each region is glad of public spending in other regions that benefits the federation as a whole, its own incentives are to "free ride" on such investments by others. On a more technological level, regions may be too small to exploit all economies of scale in the provision of public goods.

Indeed, unmitigated decentralization may lead to unacceptable inequities. Whereas competition in the marketplace will result in the contraction of inefficient firms and the re-employment of resources elsewhere, fiscal competition among federating units may leave some areas as backwaters of poverty and poor public services. Unlike an enterprise, a region that is not well endowed does not go out of business but declines and loses its tax base, while the needs of its remaining population go unmet. One may cite in this context the fate of many inner cities in the United States, or regions of Europe that depended on declining coal and steel industries. When public education is the issue, equality of opportunity is a precondition for an open and democratic civil society, but unrestrained decentralization cannot guarantee its adequate funding. Therefore, some form of federal support may be needed to sustain the degree of equality in the provision of public goods desired by the public at large. How does one ensure that this will be done efficiently and effectively?

Division of responsibilities

Some areas of competence must of necessity be reserved exclusively for the federal government. In most federations, it is generally accepted that the internal market in goods, services, labor, and capital must be unimpeded, and that the domestic mobility of finance must be maintained, because such a "level playing field" is necessary for the efficient allocation of resources and healthy competition between enterprises, industries, and regions. As a result, external economic and trade policy must be unified; without internal borders, a regionally differentiated trade policy would be vitiated by goods market arbitrage, and the net effect would be the waste of resources on cross-shipping motivated purely by tax considerations.

These are the types of areas where the federal role need not be so much to command resources, as to provide a framework for cooperation between regions and serve as an enforcement mechanism. The setting of technical standards is another such area.

If the members of a federation share a common currency, the conduct of monetary policy also needs to be centralized. Otherwise, competitive money creation may foster explosive inflation. Before that state is reached, regions will want to break the monetary union by introducing their own currencies, as one has seen happening in the former Soviet Union. A common currency implies the centralized management of reserves, the exchange rate, and any restrictions on convertibility. Finally, a federal judiciary is needed to resolve disputes between regions and between regions and the center, and to enforce cooperative agreements between them.

There may be strong arguments for the retention by the center of other powers. Banking supervision and regulation need to be uniform across the currency area, or at least minimum standards need to be imposed. If regions were charged with prudential regulation, and at the same time the central bank of the federation were to act as lender of last resort and insure depositors against bank runs, any one region would be inclined to assist its financial sector by instituting relatively lax regulation on its own banks, safe in the knowledge that the system was underpinned by the national monetary authority. It is noteworthy that even those central banks that are organized on a regional basis, as in the United States and Germany, function as centralized institutions.

Fiscal policies

In most countries, the central government reserves the right to use fiscal policy to influence aggregate demand. But there is no reason to suppose that only the federal deficit matters. In an integrated national economy, the transmission of fiscal impulses between regions will be rapid and powerful. If regional governments attempt to conduct independent fiscal policies, the net result may be far from optimal. It is possible, for example, that no one regional government would be inclined to stimulate flagging demand by incurring a deficit, if the main effect is to draw in imports from neighboring regions.

One solution to this problem is to set up some elaborate mechanism to coordinate the fiscal policies of regional governments; the mechanism is likely to be cumbersome and time-consuming, but it may be unavoidable if fiscal sovereignty is highly valued by regions. The alternative solution is to leave fiscal policy solely in the hands of the central government. In a country without well-developed capital markets, centralized fiscal policy also finesses the issue of the allocation of bank credit to regional governments, which could otherwise be the subject of endless quarrels between the center and the federating units and could undermine monetary policy.

However, a centralized fiscal policy can be detrimental to regions suffering from unusual disturbances relative to the nation as a whole. A case in point is Slovakia, whose industrial structure was built largely around the premise of the Soviet market as a supplier of cheap energy and raw materials and an outlet for Slovak heavy industry. Not surprisingly, Slovak policymakers have put forward demands for direct compensation or the development of alternative policy instruments, such as special financing facilities, as the price

of their continued participation in the Czechoslovak federation. Note, though, that as economic development and integration between regions lead to convergence in economic structures, shocks can be expected to have more similar effects across the federating units.

Whatever the role of regional budget balances in short-term stabilization policy, the temptation for regions to run unsustainable deficits may be dangerous. Forces in competitive financial markets, and especially international financial markets, may conceivably discourage national governments from accumulating very large amounts of debt, but these forces will not trouble a regional government, for usually it can be almost certain that if need be, it will be saved from bankruptcy. Hence, there are grounds for enforcing budgetary discipline on regional governments; such reasoning motivated the clauses limiting deficit financing included in the recent Maastricht accord between European countries on the move toward Economic and Monetary Union.

If it is accepted that the aggregate fiscal position is to remain a purely federal responsibility, the size and composition of resources channeled through the federal budget must be such that fiscal imbalances can be prevented in a timely and effective manner. Traditionally, it has been argued that such flexibility requires the careful matching of expenditure responsibilities with the sources of revenue at all levels of government. The problem is that efficiency considerations—to collect revenue at minimum cost in terms of utility and resources, and to provide public goods in the mix and quantity desired by the population—may dictate an asymmetric distribution of taxes and public spending across different levels of government, so that close matching or revenues with expenditures is impossible.

Receipts from customs duties and value-added tax, for example, seem to belong in the "natural" tax base of the federal government: Their tax bases are very mobile, and decentralized administration of them, while feasible, would involve large opportunity losses and could impede free circulation of goods. These receipts, however, may far exceed what is needed to finance the few pure public goods, such as defense, which are clearly most efficiently supplied at the federal rather than regional or local levels. In addition, political and constitutional considerations frequently dictate tax and expenditure assignment patterns that deviate significantly from those advocated by economists.

An extreme case was Yugoslavia, where the federal budget never exceeded 10 percent of national income, and most expenditure and revenue was legally mandated; no scope was allowed for active fiscal policy for either macroeconomic or microeconomic purposes.

The assignment of taxes and expenditures, then, is inevitably a second-best exercise, and no general assignment rules can be designed without knowledge of the constraints and distortions in the system. At the most practical level, it is quite feasible in this age of computerization for many parts of the tax base to be assigned to either the federal or regional governments, or to be shared.

The absence of close matching between revenues and expenditures implies that different levels of government need to cooperate and coordinate their activities, and that vertical transfers are an essential element in the design of every federal fiscal system.

Reverse transfers

Some very loose federations have relied on contributions from regions (known as "reverse transfers") to complete federal financing. In historical episodes where reverse transfers were important, as in the United States in the 1780s and Germany after 1871, they prompted lengthy and acrimonious disputes between regions, and between regions and the center, over their level and distribution. Whereas taxes on economic activities are seen as the responsibility of individual households and enterprises, reverse transfers are easily interpreted as the immediate cost of belonging to the federation. Thus, regions are likely to demand an equally immediate fair return on their contributions. If reverse transfers are renegotiated on a regular basis, the budgetary process may get bogged down in perennial bargaining; if they are determined according to some rule, they may become a very inflexible source of revenue, and regions that feel themselves even temporarily disadvantaged will clamor for revision of the rule. It may be a rational negotiating strategy for a region to delay all federal decisionmaking until it is satisfied with the distribution of reverse transfers. The federal government meanwhile will have little incentive to restrain its spending, if responsibility for its financing rests on regional governments. During the break up of the Soviet Union, the republics certainly expressed their feeling that the (unelected) central government was spending their contributions profligately and compensating for any shortfall in receipts by money creation.

Reverse transfers can be defended on two grounds. First, they allow regional governments more freedom in organizing their own tax system. Second, when regional governments do not entirely trust each other or the federal government, reverse transfers may be the only way to adequately finance a desirable range of federal activities. Their very impracticality may usefully serve to limit the extension of central government power. This negative argument is most persuasive when a federation is newly established or has undergone a period of internal dissent and confidence in the system has yet to be earned.

Inter-regional transfers

The federal government spends not only on its own consumption and investments but it also provides subsidies and grants to lower levels of government and to individual households and enterprises. Such government transfers can prompt destructive inter-regional conflict because they affect the distribution of income among federating units.

The least controversial aspect of a transfer mechanism is its role in supplementing private markets in the provision of a form of economic insurance for all members of a federation. A federal system of taxation and social insurance helps stabilize incomes across the federating units: regions enjoying a boom will tend to pay more taxes, and regions in recession will tend to receive more unemployment benefits, income support payments, and so on.

Transfers may also be used by the federal or state government as inducements for lower-level governments to provide the quantity and type of public good desired by the grantor. A matching grant from the federation, whereby the federal government assumes a share of the cost of a program, in effect reduces the marginal cost to the region of

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providing a service, and so counteracts the tendency to undersupply public goods. (Nonmatching grants from the center are fungible, that is, they can be offset by reductions in state spending: they will have only an income but no substitution effect.) Regions may become dependent on matching grants so that the federation can impose its will on regional governments by making the release of specific matching funds conditional on acceptance of a host of federal policies. For example, in the United States, the federal government instituted a national speed limit by threatening to withhold highway funds from states that did not conform. Transfers and loans to regions to promote economic development contain the same danger of creeping centralization and politicization.

The most problematic form of transfers are those designed to equalize the provision of public goods across regions, or to equalize income generally. Sustained transfers to those who are less well off may sometimes be motivated by fear of dissent, or by the feeling among the fortunate that their fate might change, but in the end each country must make a normative choice about how concerned it is about inequality. In federations of distinct regions, there may be very little sympathy for the plight of the less developed regions, and corresponding resistance to any large transfers to them. A notorious example of such indifference is provided by the passivity of the British Government when faced with the Irish potato famine in the 19th century. Indeed, richer regions in a federation may even be able to negotiate net transfers from the poorer regions, because they could best withstand the dissolution of the union.

Conclusions

Some general principles can be discerned in the design of a practical federal system. Any rules defining responsibilities and intergovernmental relations need to be based on relatively simple criteria that are open to prompt verification. The closest possible link between decisions on the level and composition of spending, and those concerning its funding, is important in promoting accountability. Provided that the federal government can define the framework within which policy is conducted, so that the incentives for "beggar-thy-neighbor" policies are minimized, considerable scope can be allowed to regional governments to pursue their separate agendas and to compete to provide the best public services in the most efficient manner.

Where the centre has responsibility, it must control enough resources and instruments to act in a decisive and effective manner. The worst combination is likely to arise in a system half way between a very loose confederation and a federation with a powerful central government; then regions will have strong incentives to compete to seize control of the center and to obtain benefits at the expense of others.

This danger points to the importance of organizational procedures and the representation of regional interests in federal institutions—subjects that have not been discussed here because of lack of space. Regions will consent to the delegation of extensive powers to the central government only if each is confident that its voice will be heard in the formulation and development of policy. At the same time, regions will have to recognize the necessity of granting the center operational flexibility in its area of competence.

Ultimately a federation will survive only if every region is willing to compromise on occasion to promote the common good, in anticipation that others will do likewise. Without a modicum of mutual respect, no group can be sure that its vital interests will not be ignored or that it will not be the victim of the "tyranny of the majority." If this level of trust cannot be achieved, it may be better to dissolve the union and minimize the scope for conflict. ■

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The Environment for Development

Without environmental policies, development will be undermined. Without development, environmental protection will fail

Andrew Steer

In the past, development policies tended to be viewed as those that promoted *growth* in human activity, while environmental policies were seen as those that tried to *restrict* it. But in recent years, the idea of "environment as constraint" has given way to an acceptance of the "environment as partner." Development policymakers increasingly recognize that failing to take the costs of environmental damage into account will prove to be inefficient and often ineffectual in raising incomes and well-being. Environmentalists similarly realize that for many problems—especially those in developing countries—the answer lies in faster, not slower, growth in incomes, along with sound environmental policies.

But while there is strong agreement at the conceptual level on the need to integrate policies for development and the environment, a large gap between rhetoric and practice remains. The World Bank's *World Development Report 1992* discusses how best to close this gap.

The nature of the challenge

More people have been lifted out of poverty over recent decades than in any other period in history, yet the number of very poor stands higher today than ever before. Over one billion people live in acute poverty, suffering grossly inadequate access to the resources required to give them a chance for a better life. Attacking this problem is not only a moral imperative, it is also essential for a sound environment (see "Environmental Problems and Developing Countries" in this issue).

As policymakers attempt to turn this situation around, they will find themselves fighting against ever greater odds. Over the next 40 years, the world's population will grow by 3.7 billion— an increase much greater than in any previous generation and probably much greater than in any subsequent one. Ninety percent of that rise will take place in developing countries, largely in cities, pushing population densities in many places to an extreme. World consumption of energy and manufactured goods will triple, even under more efficient patterns of use; for developing countries, the increase will be fivefold. If emission per unit of output remains unchanged, tens of millions of people will die prematurely each year as a result of pollutants, water shortages will become intolerable, and tropical forests and other natural habitats will shrink dramatically. Fortunately, such an outcome is unnecessary.

The belief that greater economic activity inevitably hurts the environment is based on static assumptions about technology, tastes, and environmental investments. In reality, however, the relationships between inputs and outputs and the overall effects of economic activity and the environment are continually changing. The key

The World Development Report 1992 *has been prepared by a team led by Andrew Steer and comprising Dennis Anderson, Patricia Annez, John Briscoe, John Dixon, Gordon Hughes, Maritta Koch-Weser, Stephen Mink, William Magrath, Kenneth Piddington, Nemat Shafik, and Sudhir Shetty. The work was carried out under the general direction of Lawrence H. Summers. For information on ordering copies, see advertisement on page 17.*

question is whether the positive forces of substitution, technological innovation, and structural change that tend to reduce environmental damage can more than compensate for any negative consequences of the overall growth in scale.

Where scarcity of environmental resources is reflected in decisionmaking—as is the case for metals and minerals, for example—these forces are very strong. Where open access to resources occurs—as is the case for water, forests, and air—environmental damage is often severe. In these situations, decisionmakers must be forced to take the true value of the resources into account. This is not easy. However, the evidence suggests that where environmental policies are publicly supported and firmly enforced, the positive forces can be just as powerful as for marketed inputs. Indeed, this explains why the environmental debate has rightly shifted away from a concern over *physical limits* to growth toward a concern about incentives for human behavior and policies to overcome *market and policy failures*.

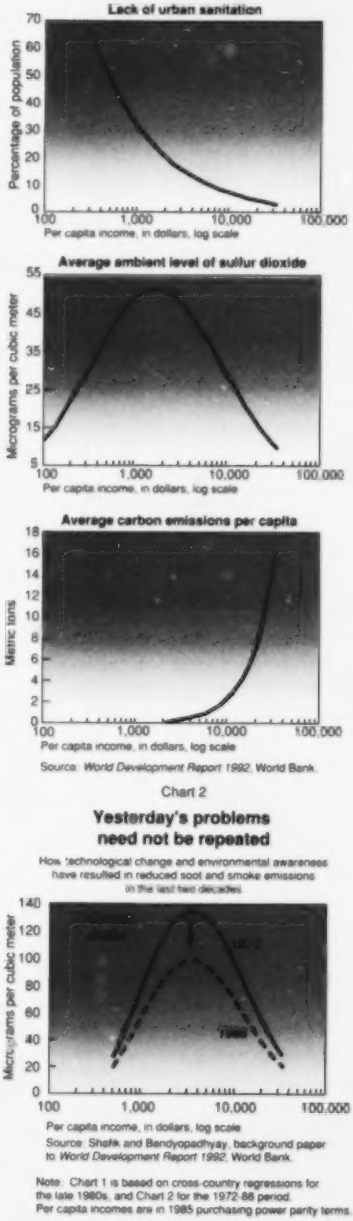
Chart 1 shows how rising economic activity can cause environmental problems, but can also help address them. Three patterns emerge:

- Some problems decline as income increases. This is because increasing income provides the resources for society to provide public goods such as sanitation services and rural electricity, and once individuals no longer worry about day-to-day survival, they can devote resources to profitable investments in conservation.
- Some problems initially deteriorate but then improve as incomes rise. Most forms of air and water pollution fit into this category, as do some types of deforestation and encroachment into natural habitats. There is nothing automatic about this improvement; it occurs only when countries deliberately introduce policies that allow increased income and technical progress to be used to address environmental problems.
- Some problems keep growing as income increases (carbon and nitrogen oxide emissions are current examples). Here, the costs of abatement are relatively high, while the costs of the damage are not yet perceived to be high—sometimes because they are borne by someone else. The key, once again, is policy. In most countries, individuals and firms have little reason to reform until the right incentives are put into place.

The chart does not imply an inevitable relationship between income levels and particular problems. Individual countries can choose policies that result in much better (or worse) environmental conditions than those in other countries at similar income levels, and technological progress has enabled countries in recent decades to develop in a less damaging manner than was possible earlier (see Chart 2).

Chart 1

How environmental issues change with income levels



Source: *World Development Report 1992*, World Bank.

Chart 2

Yesterday's problems need not be repeated

How technological change and environmental awareness have resulted in reduced soot and smoke emissions in the last two decades

Source: Shafik and Bandyopadhyay, background paper to *World Development Report 1992*, World Bank.

Note: Chart 1 is based on cross-country regressions for the late 1980s, and Chart 2 for the 1972-88 period. Per capita incomes are in 1985 purchasing power parity terms.

What does all this mean for how we should proceed in attacking the underlying causes of environmental damage? The Report concludes that two broad sets of policies are needed: those that seek to harness the positive links between development and the environment, and those that seek to break the negative ones. Chart 3 illustrates how these two sets of policies reinforce each other in the case of air pollution. Efficiency gains can reduce emissions considerably, but will never be enough to solve problems. New practices and technologies need to be adopted to counter the adverse impacts of growth on the environment.

Building on the positive links

Fortunately, many policies that are good for economic development and efficiency are also good for the environment. Examples of such "win-win" policies include:

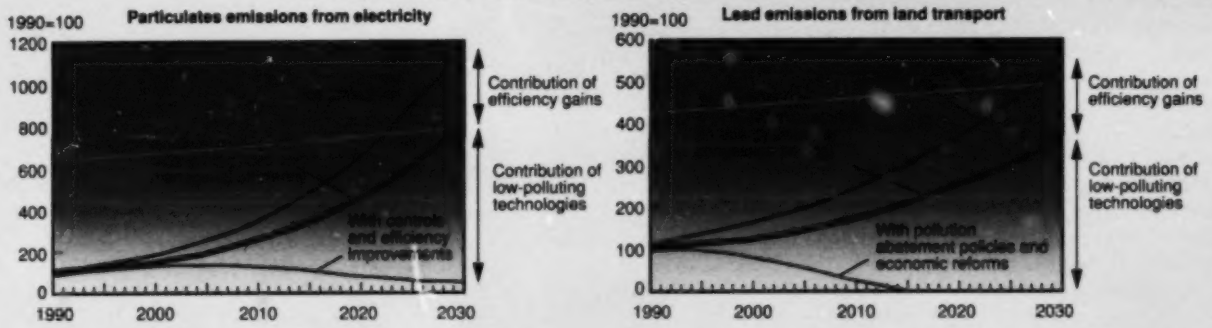
Stopping policies that foster excessive resource use. Distorted prices—notably subsidized input prices—are downright harmful to development and the environment worldwide. In industrial countries, energy taxation is often skewed in favor of the most carbon-intensive fuels, especially coal (which is subsidized in Europe). In developing countries, energy subsidies cost $230 billion per year—about five times the total world volume of official development assistance. Estimates for Eastern Europe and the former Soviet Union (which account for three quarters of all energy subsidies) suggest that more than half of all air pollution would disappear if energy prices were simply raised to world levels. Other distortionary incentives include: logging fees such as those in a sample of five African countries that range from only 1–33 percent of the costs of replanting, and irrigation charges in most Asian countries, which cover less than 20 percent of the costs of supplying the water.

Clarifying property rights. When people have open access to forests, pasture land, or fishing grounds, they tend to overuse them. Providing land titles to Thai farmers has helped to reduce forest damage. Assigning property titles to slum dwellers in Bandung, Indonesia, has tripled household investment in sanitation facilities. Clarifying communal land rights in Burkina Faso has reduced soil erosion, and allocating transferable rights to fishery resources has checked the tendency to overfish in New Zealand.

Accelerating education and family planning programs. Better education is essential, as it enables the adoption of more sustainable practices in agriculture, industry, and household management and helps accelerate the transition from subsistence agriculture to intensive agriculture and off-farm employment. Providing increased access to education was found in Thailand to be the single most important policy for reducing pressure on the forests. Educating girls may be the most pow-

Chart 3

Air pollution in developing countries—three scenarios



Electricity generation from fossil fuels doubles every five to ten years in developing countries, while prices average much less than 50 percent of supply costs. Raising prices gradually would reduce unnecessary waste in consumption, lower the rate of growth of pollution, and facilitate investment in cleaner technologies. Adding controls on particulates could reduce pollution per unit of output by 99.9 percent over the long term, with the savings from efficiency improvements outweighing the extra costs of introducing controls by a factor of more than ten to one.

Vehicle fuel taxes are low in developing countries (as they are in the United States) and congestion pricing is not much used. Economic reforms (gradually changing taxes to European levels and introducing a "Singapore model" of congestion pricing in larger cities) would have huge economic benefits and help to reduce pollution. But targeted policies—to encourage the use of unleaded fuels and emissions reduction more generally—would have a more decisive effect, and the costs would be a small fraction of the gains from efficiency reforms and improved health.

Source: *World Development Report 1992*, World Bank. (Anderson and Cavendish, background paper.)

erful long-term environmental policy in Africa and elsewhere; netting out other factors, a secondary education reduces the number of children born to a woman in Africa from seven to four.

Accelerating agricultural extension and research. World grain production will need to grow annually by 1.6 percent over the next 40 years. This is considerably lower than the 2.5 percent a year achieved over the past 25 years. But many agronomists believe the coming years will be more difficult, as the scope for irrigation expansion and dissemination of green revolution techniques is reduced. Intensification must continue to provide the bulk of food increases, necessitating much better soil and water management and a continued expansion of fertilizer use. Technologies and practices already exist that would increase productivity in an environmentally sustainable manner, but applying them will require better training of farmers, better access to credit and infrastructural facilities, better managed and more accountable irrigation authorities, and the removal of price distortions against farmers. Agricultural research, which has declined in recent years, also needs to be reinvigorated at both the national and international levels.

Investing in sanitation and water supply. Given the enormity of the problem—1 billion people in the developing world are still without access to clean water and 1.7 billion lack access to sanitation—a growing number of governments are recognizing that the job is too big for the public sector. Many studies show that most people (even fairly poor ones) are willing to pay for these services if the quality is reliable (current tariffs cover only 35 percent of supplying water, so services are often poor). Numerous countries, such as Argentina, Chile, Côte d'Ivoire, and Guinea, are also exploiting the skills of the private sector with great success.

Breaking the negative links

The policies and investments described above do not require a sacrifice in economic growth. But curbing other forms of damage—such as pollution from industry and deforestation—may involve such a tradeoff, at least in the near term. Addressing these problems requires that (1) the tradeoff be identified and costs and benefits of alternative policies assessed; (2) priorities and standards be set in the light of these costs and benefits; and (3) practical and cost-effective policies be designed to induce or force a change in behavior.

Assessing costs and benefits. Since the analysis in the 1950s and 1960s of hydroelectric projects in the United States, good progress has been made in incorporating environmental concerns into project analysis. But only a few governments have used such techniques to set environmental priorities and make decisions about policy tradeoffs. Moreover, not all countries can undertake this level of sophisticated analysis. Using estimates of the impact of pollution on health and productivity calculated in other countries can be a useful short-cut, coupled with simpler calculations based on domestic circumstances. Some generalized results for pollution control include: particulate emissions from electricity generation and industry, which are a major cause of disease and cost little to solve (1–2 percent of capital costs), should be attacked vigorously everywhere; sulfur dioxide emissions, which cost much more to reduce and cause less damage in most places, are a lower priority; and lead emissions from transportation, which have very high health costs, should be reduced quickly in cities with dense vehicular traffic.

Generalizations are more difficult to make for protecting forests and natural habitats. The few serious studies suggest that the value of protecting forests to local communities and regions is often surprisingly high and the value of the land for agriculture is often lower than anticipated. Careful analysis can help clarify not only how much should be protected but also who should pay. A study in Cameroon found that protecting the Korup National Park was hard to justify in terms of narrow national interest, but easy to justify when worldwide benefits were taken into account.

Changing behavior. Such policies fall into two broad types: the "market-based" policies, which tax or charge polluters according to the amount of damage they do; and the "command-and-control policies," which rely on quantitative restrictions.

Market-based instruments are best in principle, and often in practice, as they allow problems to be addressed by those polluters able to do so at least cost. To date the most widely

used economic incentives have been indirect ones, ranging from fuel and vehicle taxes (in most industrial countries) and congestion charges (Singapore), to surcharges on potentially damaging inputs such as pesticides and plastics (Denmark and Sweden). More specific charges—such as the newly introduced carbon taxes in Europe, deposit-refund schemes for batteries (several European countries), hazardous wastes charges and performance bonds (under consideration in Bangkok), and surcharges on stumpage fees to pay for replanting (Indonesia)—are growing in importance.

Command-and-control instruments have acquired a bad name in recent years for their high costs and for stifling innovation. But in some situations, they may be the best instruments available. Where there are a few large polluters, as was the case in the industrial city of Cubatao in Brazil, the most effective means may be direct regulation. Another candidate would be managing land use in frontier areas.

Conserving scarce administrative capacity is an important consideration when choosing instruments. For developing countries, blunter instruments with fewer points of intervention will be attractive, as will self-enforcing incentives (e.g., deposit-refund and performance-bond schemes). Lessons from recent experience include:

- Standards should be realistic and enforceable. Otherwise, the result is wasted resources, opportunities for corruption, and an undermining of the credibility of the program.
- Controls must be consistent with the overall policy framework. Many well-intentioned policies have been thwarted by other policies pulling in opposite directions. Both China and Poland have had pollution taxes for years, but to no effect because state-owned enterprises were uninterested in profitability.
- A combination of policies will often be required. Reducing air pollution from vehicles in Mexico City, for example, will require mandated emissions and engine standards, fuel improvements, and gasoline taxes.

Removing impediments

The principles of sound environmental management are not complex—but few governments successfully implement cost-effective policies. Political constraints frequently arise, and entrenched interests will always fight to retain the right to pollute. Better information, more effective institutions, and improved local participation can help remove such constraints.

Improving information. Governments often make decisions in the absence of even rudimentary information. Lack of knowledge in some areas—problems of soil depletion (especially in Africa), land productivity in and around tropical forests, and global atmospheric issues—is so urgent that it requires major international initiatives. Countries can reap large returns from investments in basic environmental data on exposure to emissions and unsanitary conditions, soil and water depletion, land capability, and forest and natural habitat loss. Independent commissions are proving to be a useful way for governments to draw upon technical expertise and depoliticize highly charged issues.

Enhancing institutional arrangements. In addition to the clear needs for better technical skills, adequate finance, and a clarification of environmental regulations, experience suggests four priorities. First, public agencies that carry out environmental programs, along with donors and aid agencies, need to be held accountable for the environmental impact of their activities. Second, governments need to develop the capacity to set priorities and monitor progress. No ideal blueprint exists, but a formal high-level agency for setting policies and ensuring implementation across sectors has been found to sharply improve environmental management in countries such as Brazil, China, and Nigeria. Third, where intersectoral decisions need to be made (e.g., management of water within a river basin, or protection of large populated forest areas), coordination is required. Finally, regulatory and monitoring functions need to be independent.

Involving local people. Neither governments nor aid agencies are equipped to make judgments about how local people value their environment. A participatory process is essential. Local participation also has high economic and environmental returns in implementing programs in afforestation, soil management, park protection, water management, sanitation, drainage, and flood control. Development projects that have not built upon the strengths of existing practices have often failed. Haiti's reforestation program consistently floundered until small farmers and community groups were allowed to choose where and what kind of trees should be planted. The result: 20 million trees were planted on 75,000 family farms, instead of the originally targeted 3 million trees on 6,000 farms.

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Costs of sustainable development

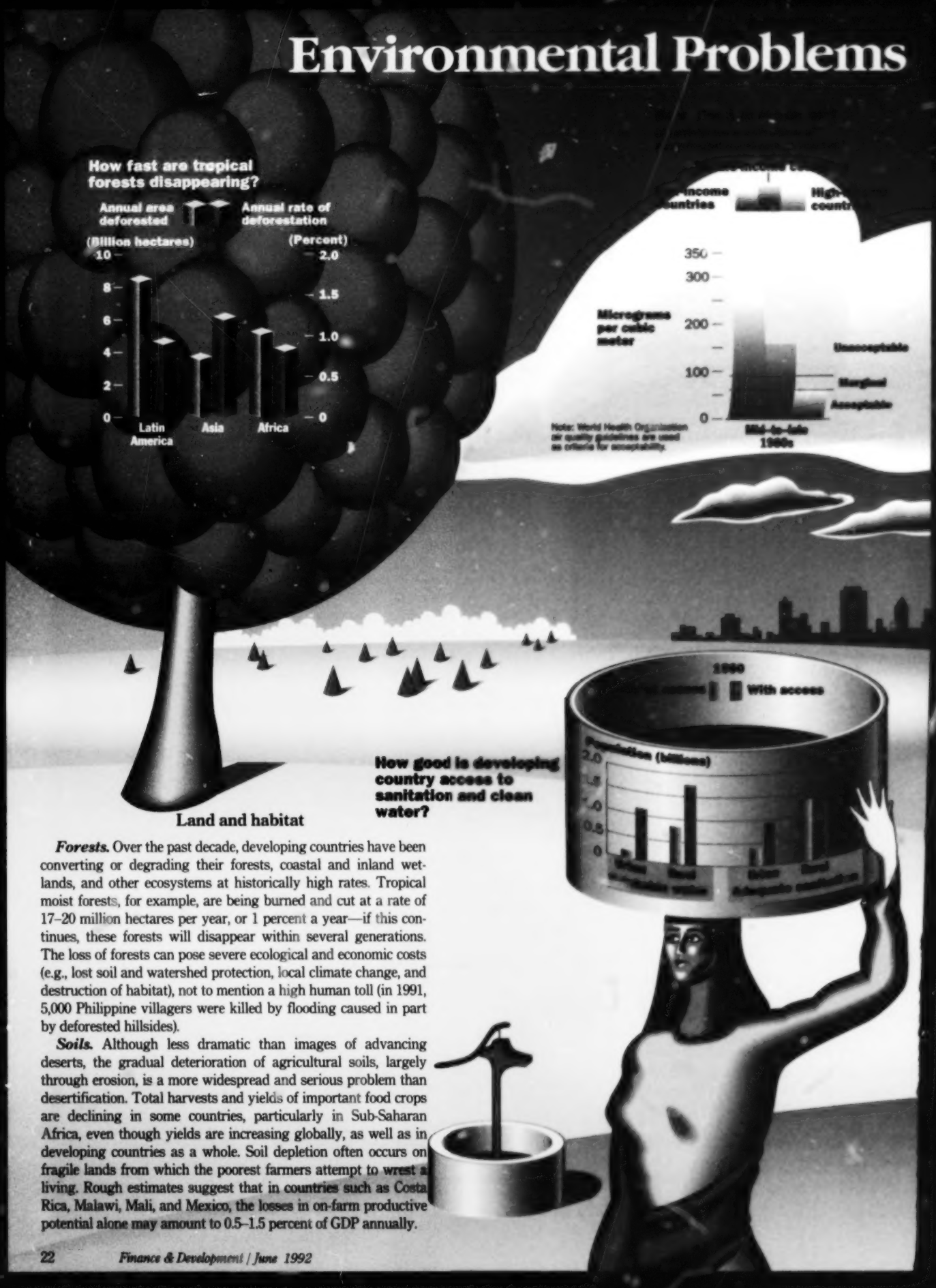
Policies and programs to accelerate environmentally responsible development will not be costless—politically or financially. Overall extra costs, many of which would add to employment and income growth, could amount to 2–3 percent of developing country gross outputs. These requirements, which could rise to $100 billion per year (in 1990 prices) by the end of the 1990s, would cover incremental costs for pollution control in energy and industry, and an expanded program of soil conservation, family planning and female education, forest protection, research, sanitation, water, and waste management.

While high in an absolute sense, these sums are modest in relation to the resources provided by economic growth. They are also much less than the potential for efficiency gains. The bulk of these investments will be paid by private and public enterprises responsible for the damage, and by the beneficiaries of improved environmental conditions. Even so, finance will still be required from private and official sources. Improved access to international capital markets will be essential, along with increased concessional assistance.

As for global problems, industrial countries must bear most of the costs of addressing them, especially when required investments are not in the narrow interests of developing countries. The industrial countries account for most greenhouse gas and chloroflurocarbon emissions and will benefit, along with developing countries, from the protection of natural habitats and biodiversity. The Global Environment Facility already exists as a mechanism whereby rich countries can support poor ones for undertaking necessary changes. It needs to be made permanent and expanded. But it is imperative that these grants, which represent compensation for costly local actions, not be diverted from development assistance programs.

The agenda for reform is a large one. Accepting the challenge to accelerate development in an environmentally responsible manner will involve substantial shifts in policies and priorities—not to mention high costs. But failing to accept the challenge will be more costly still. ■

Environmental Problems

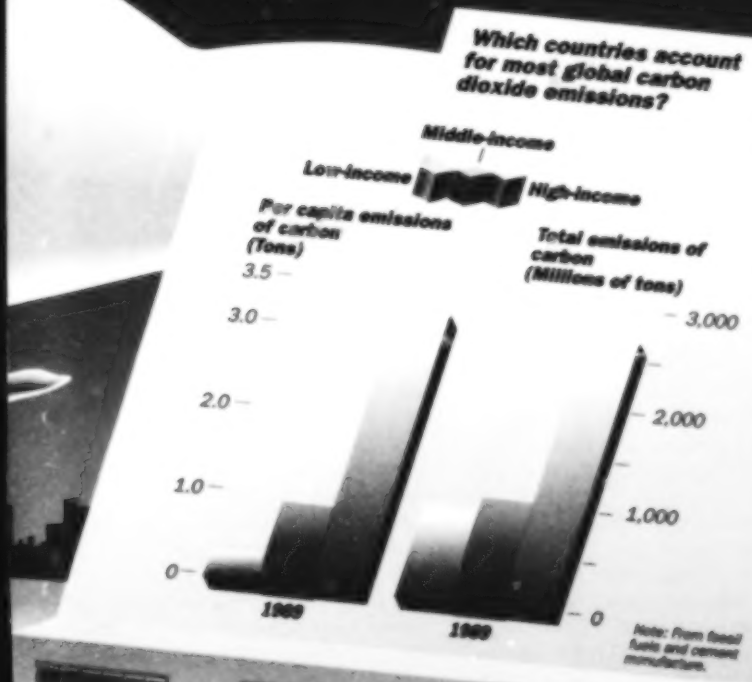


Land and habitat

Forests. Over the past decade, developing countries have been converting or degrading their forests, coastal and inland wetlands, and other ecosystems at historically high rates. Tropical moist forests, for example, are being burned and cut at a rate of 17–20 million hectares per year, or 1 percent a year—if this continues, these forests will disappear within several generations. The loss of forests can pose severe ecological and economic costs (e.g., lost soil and watershed protection, local climate change, and destruction of habitat), not to mention a high human toll (in 1991, 5,000 Philippine villagers were killed by flooding caused in part by deforested hillsides).

Soils. Although less dramatic than images of advancing deserts, the gradual deterioration of agricultural soils, largely through erosion, is a more widespread and serious problem than desertification. Total harvests and yields of important food crops are declining in some countries, particularly in Sub-Saharan Africa, even though yields are increasing globally, as well as in developing countries as a whole. Soil depletion often occurs on fragile lands from which the poorest farmers attempt to wrest a living. Rough estimates suggest that in countries such as Costa Rica, Malawi, Mali, and Mexico, the losses in on-farm productive potential alone may amount to 0.5–1.5 percent of GDP annually.

and Developing Countries



Water

Although official data show significant progress in the 1980s, nearly 1 billion people in the developing world are still without access to clean water for drinking and bathing, and 1.7 billion must contend with inadequate sanitation facilities. Moreover, the quality of service has deteriorated in many areas, and the number of people without access to sanitation continues to increase in urban areas. The result is a host of water-related diseases. Unsafe water is a major contributor to the 900 million cases of diarrheal diseases annually, leading to 3 million deaths, most of them children. At any time, there are 500 million people suffering from trachoma, 200 million from schistosomiasis or bilharzia, and 900 million from hookworm. Cholera, typhoid, and paratyphoid also continue to wreak havoc with human welfare.

Compounding matters in some locations is growing water scarcity, which makes it difficult and expensive to meet increasing demand for drinking water, irrigation, and industrial use. This is a particularly acute problem in arid areas of the Middle East, as well as in places such as Northern China, East Java, and parts of India. Groundwater is being depleted, sometimes irreversibly. Moreover, existing withdrawals from rivers limit further expansion of irrigation and in-stream uses (e.g., river transport, sediment flushing, and fish reproduction).

veloping countries [illegible] Organization standards on dust and smoke, the [illegible] serious respiratory illnesses looms large. Reducing such pollution, especially in China and India, could save 300,000–700,000 lives every year.

- Indoor air pollution from burning wood, charcoal, and dung inside homes—especially in rural Africa and South Asia—endangers the health of 400–700 million people. Women and children suffer most, with some of the same health consequences of those who smoke the equivalent of several packs of cigarettes per day.
- High levels of lead, primarily from vehicle emissions, contribute to hypertension and high blood pressure and hinder neurological development. Estimates for Bangkok suggest that the average child has lost four or more IQ points by the age of seven because of elevated exposure to lead.

Atmospheric changes

While much environmental damage and loss is evident today, other sources of potential danger—including those that cross national boundaries—may not show their ill effects for decades hence.

Ozone depletion. This is the most immediate "global commons" problem, as scientists continue to record alarmingly high atmospheric levels of ozone-destroying substances—primarily chlorine monoxide, which originates from chlorofluorocarbons. Ozone protects life on earth by absorbing much of the ultraviolet radiation that causes skin cancer, cataracts, and possibly immune-system damage in humans, and reduces the productivity of microscopic marine organisms that are at the base of the oceans' food chain.

Global warming. Increasing emissions of carbon dioxide and other greenhouse gases raise average temperatures on earth, and although the exact size of the effect remains unclear, average world temperatures may rise by 1.5–4.5 degrees Celsius by the second half of the next century. Recent research has reduced fears that ice caps might melt, causing sea levels to rise precipitously, but there are still grounds for concern. Low-lying nations are nonetheless at risk, and agriculture, forests, and ecosystems may not easily adapt to rising temperatures and consequent climate changes. The best estimates, still extremely crude, are that global warming will impose costs 60 years from now equivalent to about 1 percent of world GDP.

Low-income countries are those with a GNP per capita of $610 or less in 1990.
Middle-income countries are those with a GNP per capita of more than $610 but less than $7,620 in 1990.
High-income countries are those with a GNP per capita of $7,620 or more in 1990.
Source: All of the charts and data are taken from the *World Development Report 1992*.

Protecting the Ozone Layer

Financial incentives would help developing countries accelerate the implementation of the Montreal Protocol

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Over the past year, scientific evidence has continued to mount showing that stratospheric ozone layer depletion is even more serious than thought only a few years back. This poses a major problem, because the ozone layer shields life from a harmful solar ultraviolet radiation known as UV-B. Although ozone depletion has been most pronounced at the poles, its effects will also be serious at other latitudes, since UV-B, like all solar radiation, increases in intensity toward the equator. At higher latitudes, people will face a greater risk of skin cancer; at lower latitudes, more crop damage and health effects such as cataracts and immune system impairment are likely to occur; and vital links in food chains on land and sea might be broken.

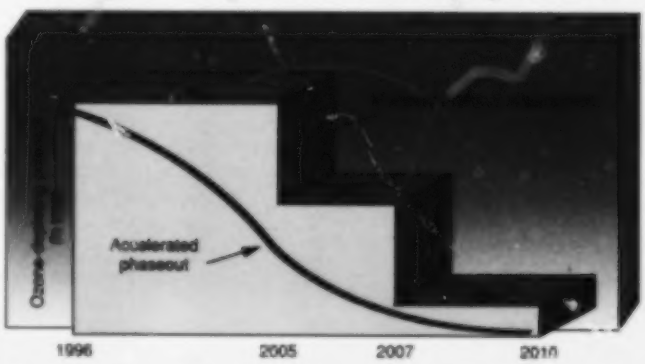
While the ozone problem has been caused principally by industrialized countries, developing countries will have to join them in reaching a solution. Their participation is currently facilitated by the 1987 Montreal Protocol (MP), but if the phaseout needs to be accelerated, additional financial incentives and a more flexible way of carrying out the accord would be required.

International response

The depletion of the ozone layer results from a complex series of reactions catalyzed by certain long-lived ozone depleting substances (ODSs) in the atmosphere—mainly chlorofluorocarbons (CFCs) and halons—that are of recent and man-made origin. CFCs are used chiefly as refrigerants, aerosols, foaming agents, and electronic parts cleaners, while halons are used in fire fighting. Although such compounds were first made in the 1930s, it took almost 50 years for them to reach dangerous levels in the atmosphere. Not until 1974 was their critical effect on the ozone layer discovered, and only since 1985 has any international action been taken to limit their emissions. Ironically, it is the very inertness, nonflammability, and nontoxicity of ODSs that initially earned them such a clean bill of environmental health.

The international response began with a meeting attended by 49 nations in 1985, under the auspices of the United Nations Environmental Programme (UNEP). In an accord known as the Vienna Convention for the Protection of the Ozone Layer, these countries established a framework for further scientific studies and assessments, and the future development of specific protocols. The first of these was the MP, originally signed by 21 nations (up to 76 as of March 1992). It set schedules for gradual reductions in the consumption of two groups of ODSs (CFCs and halons), based on each participant's use during 1986—the current goal is complete phaseout by the end of the century. Each group has its own phaseout schedule, such as that shown in Chart 1.

Chart 1
CFC phase-out schedule for developing countries



Percentages are based on the lower of: (a) average consumption in the years 1995 to 1997; and (b) 0.3 kilograms per capita.
Source: The World Bank.

But it is the weighted sum of the consumption of all substances within the group that is relevant, as the weights try to capture relative impact, called "ozone-depleting potential" (e.g., halons generally are up to ten times more damaging than CFCs). The MP also places restrictions on trade in ODSs with nonsignatories.

The MP recognized that developing countries contributed only a small—albeit rapidly growing—fraction of total ODS emissions (see Chart 2), and had contributed even less on a cumulative basis. Therefore, they were not expected to cut ODS use as quickly or by as much as industrialized countries (there is a ten-year grace period on starting baselines and percentage cutbacks), or to divert scarce development resources for the phaseout.

In an effort to help developing countries phase out all ODSs by 2010, the Interim Multilateral Fund under the Montreal Protocol (IMFMP) was set up in 1990 on a three-year pilot basis, to provide concessional finance and outright grants (on top of those available under existing aid programs)—the first time developed countries ever offered funds to developing countries to meet global environmental goals. The IMFMP, which can disburse up to $200 million, is jointly administered by the World Bank, UNEP, and the United Nations Development Programme, with the Bank handling the project financing arrangements. Grant financing is available to eligible countries (i.e., those that use less than 0.3 kilograms of ODS per head per year) to cover the incremental costs of various agreed phaseout activities. These include reconfiguring CFC plants to produce substitutes, retooling

refrigerator factories, recycling, technical assistance, and training.

Implementing the protocol

This unprecedented agreement to protect the global environment is now under close scrutiny as nations worldwide attempt to arrange similar conventions on issues such as climate change and biological diversity. On the positive side, industrialized countries have moved more quickly than anticipated to phase out use of the ODSs—in part, thanks to strong support from industry (which is developing chemical alternatives and new technologies) and scientific confirmation of the gravity of the problem. The economic cost of this phaseout has also been lower than had been expected. At the same time, however, the political compromises that were necessary to establish the MP have restrained certain outcomes that are economically desirable.

One is accelerated phaseout. Even though the benefits of protecting the ozone layer have not been precisely valued, the international consensus is that they will greatly exceed the costs of doing so. While early action to protect the ozone layer may raise the costs above what they would have been under a more leisurely phase-out scenario, the added benefits of accelerated phaseout should easily outweigh the extra costs. Yet the MP provides no incentives for accelerating the phaseout beyond the targets set.

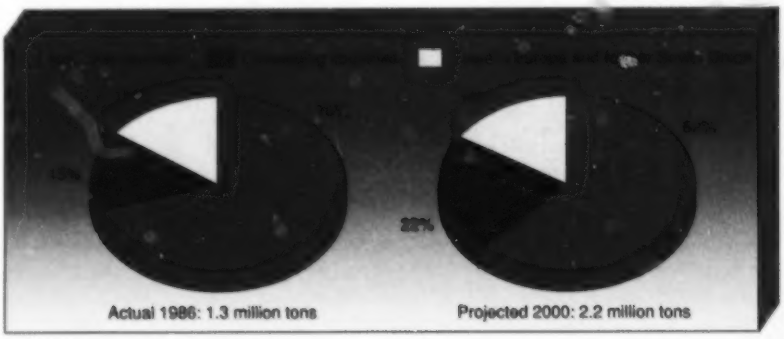
Another is global cost effectiveness. Some of the quickest and least costly options (such as recycling) are now in developing countries, because many of these have already been undertaken in industrialized countries. Indeed, it is economically beneficial for the global community to finance them—as it does to some extent through the IMFMP—but even greater benefits could be achieved by adding financial inducements to spur more rapid action.

The difficulty in maximizing these desired outcomes can be traced to several features of the existing approach.

- The fixed ODS phase-out schedules focus the attention of decisionmakers on simply meeting these minimum targets at the lowest possible cost, instead of increasing the benefits through incentives for more rapid phaseout.
- Meeting separate schedules by country and by ODS group is not an efficient way of minimizing costs. While the impact of ozone depletion at one place will differ from that at another, it will depend on the total ODS accumulation in the atmosphere and not on where the ODS is vented. The efficient approach, therefore, is to phase out those ODS groups that yield the greatest avoided ozone-layer damage per dollar spent, in whichever countries such opportunities occur.
- By paying only the incremental costs of developing countries, industrialized countries fail to provide any financial inducement for accelerated phaseout. A recipient country that is merely reimbursed is no better off whether it takes early action or none at all. The unrealized gains from the missed opportunities in developing countries are the huge differences between the benefits of ozone protection and the costs of the phaseout. The unrealized gains would still be substantial, even if the benefits were very conservatively estimated as merely the savings that would result from avoiding the far more costly measures needed for industrialized countries to accelerate phaseout of the same amount of ODS.
- The incremental cost criterion also increases administrative costs and introduces some delay in processing because it is very difficult to apply in a consistent, transparent, unambiguous, and reasonably efficient manner—especially if applied, as it is now, at the level of the individual enterprise.

Chart 2

CFC and halon use by region



Source: The United Nations Environmental Programme.

Ways to improve implementation

While it is unlikely that a new convention or substantially revised Protocol can be negotiated soon, there are several ways of working within the existing framework to speed up the phaseout.

Schedules. Even without abandoning schedules, there are two ways of improving the way they are used (i.e., of speeding up implementation and reducing costs).

The first (currently under consideration) is to encourage countries to waive the grace period, or at least not use it fully—bearing in mind that there are financial implications, as the incremental costs of the phaseout and the obligations of the IMFMP would increase. In some countries, the grace period has led to complacency about the need to take action, while in others it has not been regarded as a concession at all, and is unlikely to be used fully. Indeed, many relatively advanced developing countries have taken early and decisive action despite the fact that this will lower the baseline consumption upon which their future targets will be based. Typical actions were the banning of ODSs in aerosol use (Egypt), insecticides and small fire extinguishers (Brazil); the use of import quotas (Singapore and Hong Kong); and negotiated industry actions (Mexico).

The second way involves supplementing the present approach by financing well-known, low-cost technologies on a generic, limited-appraisal basis across countries. This would speed up adoption of new technologies, while still leaving individual country schedules as the "safety-net" obligation.

Incremental costs. If financial inducements were provided to them, developing countries could go quickly beyond the unilateral and economically attractive actions already undertaken. However, even if the incremental cost criterion is retained as a central element in the IMFMP, there are two complementary ways in which the administrative costs and delays can be reduced.

The first is to provide a lump sum reimbursement for the incremental costs of a country program—rather than to finance individual projects. This would give recipients the flexibility to adopt the most cost-effective mix of phase-out policies and investments, without the tedious requirements of justifying incremental cost at the micro-project level. In particular, developing countries would be free to use approaches with market-oriented elements—as is being done in Singapore and Hong Kong. While measuring program-based incremental costs at the country level would be more difficult, a flexible approach to reimbursement could be based on industry norms. The second way is to decentralize project implementation and disbursement as much as possible, through the use of financial intermediaries in each recipient country. ■

Trade Policies and the Environment

How do current trading rules affect environmental policy issues?

Peter Uimonen
Exchange and Trade Relations Department, IMF

The relationship between trade and environmental policies has recently emerged as a major topic of debate. In some circles, international trading rules are seen as a limit on the ability of countries to protect national and global environmental resources. Yet, trade policy analysts view trade restrictions for environmental purposes as a new form of protection. Further developing countries worry that industrial countries will rely on trade sanctions to force compliance with national and international environmental objectives.

Thus, while various aspects of these issues are being examined under the aegis of the General Agreement on Tariffs and Trade (GATT), a "green round" of trade negotiations has been suggested even before the Uruguay Round has been concluded. Preparations for the UN Conference on Environment and Development in June 1992 have included work on how trade and environmental policies can be mutually supportive.

Basic concepts

Underlying this controversy are some basic economic principles. Economic activities of private agents often entail positive or negative effects on others that may not be reflected in private costs or benefits but appear as "social" benefits or costs that affect others. When a factory, for example, pollutes a river, it may impose social costs. In such circumstances, public policy can play a role by correcting for the divergence between social and private costs or benefits. An example would be a tax on the polluting activity equal to the social costs. An efficient, or "first-best," policy attacks that problem directly. For instance, an efficient energy tax to reduce carbon dioxide emissions to combat global warming would vary between types of energy depending on carbon dioxide content. However, it is possible for less efficient, or "second-best," policies to be better than no policy at all.

When environmental damage crosses national borders, an efficient pollution tax would include the social costs imposed on other countries. However, such policies are difficult to implement because polluting countries may have little incentive to factor the social costs imposed on others in their own production or pricing policies. A country that imports a commodity from a neighbor using a production process that results in cross-border pollution might reduce the pollution by imposing a tariff, provided the tariff affects the terms of trade. This is not the most efficient policy since it does not attack the problem directly and introduces production and consumption inefficiencies associated with the tariff. Moreover, the importing country may or may not be better off with the pollution-reducing tariff, depending on whether the benefits derived from less cross-border pollution are more than offset by the costs of trade protection.

When pollution problems are global rather than local in nature, cooperative agreements might yield efficient solutions. A polluting country could agree, for example, to impose a pollution tax conditional upon receipt of a side payment from the countries suffering from the pollution.

Alternatively, cooperative agreements among polluters might incorporate trade sanctions against parties or nonparties to the agreement as an enforcement mechanism. In the presence of transnational environmental problems with many sources, there is incentive for countries to "free ride" on the pollution abatement policies of others. If some countries can agree to an abatement plan, however, a credible threat of trade sanctions against nonsignatories could induce a change in nonsignatory behavior. Several prominent multilateral environmental agreements contain trade measures either as enforcement mechanisms or as enabling mechanisms (see table). A major issue is how these trade measures are treated by GATT rules.

Basic GATT rules

Two basic principles of the GATT are nondiscrimination and national treatment. Nondiscrimination, or most-favored-nation (MFN) treatment, obligates all countries that are contracting parties (CPs) to the GATT to extend to all other CPs the terms extended to their most favored trade partner. National treatment obligates contracting parties to treat imports in the same way as "like products" produced within their own countries with respect to internal taxes, standards, and regulations. Parties to a dispute that cannot be settled through consultation may request a GATT panel of disinterested parties to arbitrate. However, panel decisions are not easily enforced, relying almost exclusively on peer pressure.

GATT permits a number of exceptions. For example, Article XX allows two uses of trade restrictions provided they are not "arbitrary or unjustifiable" methods of discrimination nor act as disguised trade barriers. Article XX(b) permits measures "necessary" to protect human, animal, and plant life and health. In 1987, a GATT panel ruled that a cigarette import ban by Thailand (without corresponding production limits on the state cigarette monopoly) could not be justified as "necessary" under Article XX(b). Article XX(g) allows trade measures "relating to" conservation of a country's exhaustible natural resources provided they are primarily aimed at making effective domestic production or consumption restrictions. In 1987, the United States successfully challenged before a GATT panel a Canadian prohibition on the export of unprocessed salmon and herring. Canada had defended it as a conservation measure "relating to" domestic regulations. The panel held that, since Canada had not placed limits on domestic consumption of these products, the measure was not primarily aimed at making domestic regulations effective.

Trade provisions of selected international environmental agreements

Agreements	Trade-related provisions
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) *Entry into Force*. January 1975 *Objectives*. Protection of fauna and flora from overexploitation and extinction.	CITES Appendix I lists species threatened with extinction and obligates parties to almost complete trade ban. Appendix II lists species which may become threatened and obligates parties to regulate trade using permit system. Appendix III lists species whose trade may be regulated by the countries in which they exist. Article XXIII permits countries to exempt themselves from obligations on a case-by-case basis.
London Guidelines for Exchange of Information on Chemicals in International Trade *Entry into force*. Over 100 countries have indicated interest. *Objectives*. Assist countries increase safe use of chemical products through exchange of information and regulation of trade.	Obligates countries to exchange information with each other and notify UNEP International Register of Potentially Toxic Chemicals (IRPTC) whenever action is taken to ban or severely restrict use of chemicals. Chemicals on IRPTC list are subject to Prior Informed Consent (PIC) of importer, unless the chemical is already in use in the importing country.
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal *Entry into force*. Not yet in force. Requires 20 ratifications. *Objectives*. Ensure hazardous waste importers are informed of risks and have proper disposal facilities.	Requires exchange of information on transboundary waste shipments with UN Secretariat, written informed consent from authorities of importing country prior to shipment, and adequate disposal facilities in importing country. Waste shipments to nonsignatories prohibited. Parties not to export to developing countries if they suspect disposal facilities to be inadequate.
Montreal Protocol on Substances that Deplete the Ozone Layer *Entry into force*. January 1989; amended, June 1990 (20 ratifications necessary) *Objectives*. Elimination of production and consumption of stratospheric ozone-depleting chemicals.	Production and consumption phaseouts of controlled substances by 2000 (2010 for developing country signatories). Imports from nonsignatories banned by end-1990; exports to nonsignatories banned by end-1993. Signatories without objections to a list of products containing controlled substances (to be drawn up by January 1992 and agreed to) required to ban imports from nonsignatories. Signatories to study feasibility of banning imports of products from nonsignatories of products which use controlled substances as inputs in their production.

Exceptions under Article XX do not apply to measures taken to protect health, safety, or resources in other countries. In 1991, after Mexico challenged a US law that banned the import of tuna caught in nets that killed dolphins, a GATT panel ruled that Article XX(b) and (g) exceptions did not apply because the ban was a unilateral effort to pursue environmental objectives outside US territorial jurisdiction. Mexico and the US have since agreed to pursue a multilateral solution to the issue.

Nondiscrimination and national treatment apply to "like products," independent of production methods, so as to encourage trade based on each country's comparative advantage. Discrimination in trade on the basis of the environmental effects of a country's production processes is not generally permitted. However, border taxes may be allowed, provided similar domestic indirect taxes exist on a product or its inputs. For example, US legislation that imposed border charges on imported substances derived from certain chemicals, to raise revenue for clean up of waste disposal sites, was permitted by a GATT panel when challenged by the EC, since the chemicals were subject to similar domestic taxation.

Major questions remain about how these GATT rules might affect independent environmental agreements. A 1989 trade ban on products from endangered African elephants under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has been criticized as inefficient. It has been argued that controlled culling of herds for ivory and other products provides more incentive for some countries to conserve the species. This raises the question of whether a trade ban could be defensible if subjected to a GATT challenge, given the disciplines against trade measures for extraterritorial environmental objectives. Whether the trade provisions in the Montreal protocol to protect the ozone layer (see box in this article), that discriminate against nonsignatories could be justified in the GATT as necessary for the protection of life and health is also uncertain.

Other important issues

Some domestic measures ostensibly for health, safety, or environmental reasons —particularly technical standards—can act as disguised trade barriers. One case, never considered by a panel, is a European Community ban on beef raised with growth hormones to protect public health as perceived by its citizens, which has been challenged by the United States based on a lack of scientific evidence to justify it. Efforts in the GATT have been made to discipline the use of standards as nontariff barriers.

The Tokyo Round Standards Code and current Uruguay Round negotiations to modify and extend it, obliges signatories to make use of international norms when possible. Deviations are permitted for various reasons, including environmental protection, provided they are transparent and have a scientific basis. Similarly, Uruguay Round negotiations on sanitary standards for plant and animal products have sought to ensure that such measures are based on international standards when possible, with deviations not contrary to scientific principle and evidence.

Standards harmonization entails potential benefits and costs. It may reduce inefficient differences and permit increased trade, yet allowances must be made for differing standards when they reflect, for example, more stringent national risk tolerances. In the case of environmental protection standards, different countries may be capable of the same levels of abatement using different standards making harmonization inefficient. Further, purely local environmental problems would be most efficiently handled through national policies, whereas global problems may require cooperative solutions that may entail some standards harmonization.

Another issue involves the effects on "competitiveness" of differing costs of environmental protection on traded goods. Pollution-intensive industries in countries with costly abatement policies may claim to suffer from the "unfair" trade advantages of countries with lower costs. For this reason, it has been suggested that imports from countries with low abatement costs be considered unfairly subsidized and subject to countervailing duties. However, countries may be capable of achieving similar levels of environmental quality at different costs. In that case, a country levying countervailing duties against products from a country with lower abatement costs would be protecting an inefficient domestic industry. Further, when environmental effects are local and standards and abatement costs differ, such measures may be seen as encroaching on national sovereignty. ■

Reflections on Debt and the Environment

Is debt a major cause of environmental degradation? No, but sometimes reducing debt may help improve the environment

John D. Shilling

As the 1990s open, the debt crisis seems to be waning as an international development crisis while the threat of environmental degradation attracts more and more attention, and rightly so. Although standards of living fell sharply in severely indebted countries, a number of developing countries managed to sustain reasonable growth rates without incurring unmanageable debt loads, and some of the worst debtors have resolved their debt crises and are now resuming growth. However, the depletion of natural resources (including waste disposal capacity) looms as a threat to future growth, and the costs of preserving the environment are rising.

What is behind the increasing rate of environmental degradation? According to many commentators, a significant share of the blame should be placed squarely on the debt crisis and related adjustment programs. Some even assert that debt alleviation, per se, will help solve environmental problems. This argument holds a bare grain of truth, so it is very appealing, particularly in the developing world. But it is potentially dangerous, because it confuses the causes and cures, and thus if acted upon, might lead to inequitable solutions, validate inappropriate behavior, and create moral hazards.

This article, by contrast, argues that the debt crisis and the environmental crisis both stem from the same root cause. Simply put, the former resulted from the drive for rapid growth, which, given external circumstances and the accepted development models, led to levels of foreign borrowing that could not be sustained, particularly when the borrowed resources were not invested productively. Similarly, environmental degradation resulted from the drive for rapid growth, which, given social structures and technologies, led to consumption of environmental resources beyond sustainable levels. In both instances, the culprit was the attempt to increase consumption above levels the economy and environment could sustain. These unsustainable aggregate demands for economic and environmental resources were the result of a myriad of individual decisions shaped by a country's policy framework and structure. In some cases, this was due to subsistence demands of the poorest segments of the population. But in many cases, it was the relatively well off trying to increase their living standards quickly.

The challenge now is to find ways to steer the dynamic forces of growth so that further development can be sustained—in terms of the environmental resources, the wealth and savings, and the human capital that are really at the long-term disposal of each country. If this is done, standards of living will continue to improve without aggravating debt or the environment. If not, then even wiping out all debt will have little lasting effect on the environment or the plight of the poor.

The drive for growth

The seeds of the current dilemma date back to the 1960s. The development community then believed that sustained rapid growth could be achieved by public planning of investment coupled with substantial foreign capital inflows. Most developing countries themselves readily accepted these principles, believing this approach would provide better standards of living for their growing populations. It also served as a justification for exercising greater control over their own economic destinies. But this model assumed that the international environment would remain stable and interest rates would stay low. Its chances of success were compromised by the unprecedented price volatility in commodity (including oil) and financial markets (interest and exchange rates) that followed the oil price increase of 1973.

Economic independence. Developing countries entered the 1970s expecting the

"Decade of Development" to yield substantial growth dividends. Many had embarked on ambitious national development programs based on government planning and the use of national entities as the engines of growth. Rejecting external economic and political domination, they followed policies that relied on the state and state-owned enterprises. The pressure for economic independence included taking control of natural resources. But rather than acting to preserve national wealth, all too often these resources were exploited by national interests, in the same manner as foreign owners, to increase incomes rapidly. The resulting economic policy distortions led to large debt accumulation and natural resource depletion, but only rarely managed to deliver on the promise of better standards of living for most of the population.

Higher living standards. The developing world's desire for better standards of living was translated into a demand for higher levels of consumption—requiring higher output. More investment and more inputs were needed to increase the capital stock and levels of production, which in turn, placed a greater strain on the natural resource base for minerals, agricultural and forest products, and waste absorption. The demand for increased consumption in the short term tended to reduce overall savings in many developing countries, thereby raising their demand for foreign savings (borrowing) and their exploitation of natural resources (using natural capital to supplement current income). Rarely are the costs of natural resource depletion and pollution adequately represented in national income accounts or in public or private budgets, meaning that drawing heavily on the environment can easily appear to substantially raise measured output (often overvalued) and lower measured costs (often undervalued).

Modern economic growth tends to bring with it increasing income disparities, as some parts of the economy (usually the modern sector) grow faster than others. This is often acceptable when total income is rising quickly, because the poor do not lose in absolute terms. However, when GDP is not growing very fast, or indeed falling, there is usually a scramble to protect incomes, frequently to the detriment of the poor. The failure to resolve these internal distribution problems within the constraints of available resources has, in some cases, encouraged governments to follow shortsighted poverty alleviation policies that are detrimental to the environment, such as opening fragile virgin land to cultivation by the poor—an environmentally expensive, but fiscally cheap, off-budget palliative.

Volatility. As developing countries tried to accumulate and allocate capital productively, they found themselves battling more volatile price movements in financial and goods markets, a phenomenon that affects not only income flows but also the distribution of wealth. In the financial markets, the volatility came from many sources: the move by major industrial countries away from fixed to floating exchange rates; the liberalization and deregulation of financial markets; and the shift in US monetary policy to stabilizing money supply growth, which resulted in more volatility in interest rates and very high rates in the early 1980s. On the commodity front, the greater volatility was compounded by a secular decline in prices after 1975. This was the consequence of a slowdown in growth in the major consuming nations, the discovery of substitutes for many primary products (e.g., fiber-optics for copper wire), and competition between primary product exporters who needed the foreign exchange revenues.

Few developing countries were in a position to protect themselves adequately from the risks they faced in these markets. The domestic political pressures in many of these countries were such that in boom times, increased receipts tended to be spent fully on projects that locked in expenditure levels above sustainable trends. This meant that when external circumstances took a turn for the worse, reducing expenditures was very difficult, if not impossible. Moreover, there was (and still is) often a perverse pressure to increase, rather than decrease, production of these primary products as prices fell in order to sustain revenues.

How the problems began

Having accepted the primacy of GDP growth targets, developing country governments adjusted their resource mobilization programs to these targets, rather than adjusting their targets in line with the resources available. When domestic resources fell short, it was assumed that more external capital would be provided to meet these resource needs—a view generally supported by the development community and commercial lenders before 1982, but not after. Desiring to avoid foreign control, governments preferred borrowing over direct foreign investment, and financial markets in the 1970s were disposed to increase lending. Greater efficiency from new investment would, of course, have eased this dilemma, but it generally did not occur, partly due to the inappropriate policies prevailing in many countries.

Indeed, market instruments emerged in the 1970s that were conducive to a rapid buildup of debt. The Euro-credit, with its floating interest rate, foreign exchange denomination, debtor government guarantee, and substantial up-front fees seemed to banks an ideal instrument for lending to developing countries. Many readily borrowed more than they could really afford, as there were few controls on such credits; and banks equally readily lent, as they believed they faced few risks. Incentives to use the funds productively were weak in a number of countries, and misallocation not infrequent. Borrowing often allowed countries to avoid making hard policy decisions about economic adjustments and to be less mindful of advice from the World Bank and the International Monetary Fund. In the severely indebted countries, there has been little increase in productive capacity or incomes to show for all their debt.

On the environmental front, problems with degradation started long before the debt crisis—and indeed persist today, including in countries where there is no debt problem or where debt is not being serviced. Even as recently as the 1950s, when world population was about half what it is now, land and forest resources still appeared plentiful, nearly unlimited. Such resources were considered "free" for the taking, and policies were designed to encourage the exploitation of resources to raise income levels.

By the 1980s, however, it was increasingly clear that environmental resources were not unlimited, and in many cases, were actually becoming scarce. But this occurred just at the moment when many developing countries were facing pressures to restore income growth and increase exports to raise imports or repay debt. So perhaps not surprisingly, the pressures to continue to convert natural resource wealth into current income were the ones that prevailed. Part of the problem may be that national accounting practices and domestic price structures faced by economic agents fail to show the real long-term costs to the economy of resource exploitation, so growth based on exploiting resources often appears to be "cheap" in the short run. Deforestation, overgrazing, failure to control pollution, excessive fertilizing, and soil erosion are but a few examples, as they represent a great deal of asset depletion that is counted as income.

What can be done

Given that both the environmental and debt crises stem from the same drive to increase incomes in an increasingly volatile and congested world, solutions lie in applying policies that are based on better development paradigms—not in panaceas such as wide-scale debt cancellations. Already, an international strategy to deal with the debt problem has been put in place that enjoys wide acceptance in the international community. If ele-

ments of this model can be adapted to environmental issues, then indeed efforts to resolve the debt crisis may also be able to make a positive contribution to mitigating the environmental crisis.

Debt relief. The "Brady Initiative," despite its shortcomings, has proven a reasonable mechanism for providing debt relief. The economic policies required for successful growth are now better understood and accepted, so improved guidance can be provided in this area. Programs of debt reduction are conditioned on the adoption of appropriate economic adjustment policies. These policies are monitored by the multilateral institutions and creditor countries, which provide the resources needed to support adjustment and finance debt reduction. Debt relief, after all, is a form of wealth transfer, and creditors—both official and commercial—have budgetary and fiduciary responsibilities to their taxpayers, depositors, and shareholders. Their decisions to effect this transfer depend in large part on their judgment that such a transfer is an effective use of the resources provided to the debtor country, not on an inherent "right" of the debtor to receive relief.

Although adjustment policies have been criticized for being "too tough," "not tough enough," and "environmentally insensitive" (and in individual cases, some criticisms are undoubtedly true), there can be no doubt about the need for improved economic policies. The development community and government officials should develop and implement sustainable economic policies that are more effective, including securing enhanced environmental results, rather than abandon adjustment efforts.

Environmental sustainability. Achieving environmental sustainability has become a major goal of the 1990s, and we now know that stopping environmental degradation and eliminating the waste of natural resources are essential. Although further analysis and research is needed to understand how to design and implement better policies to this end, much is already known about how to improve environmental policies. It is also clear that most developing countries will need access to more technology and resources if they are to succeed in these endeavors.

A key step is for developing countries to undertake national environmental assessments. Indeed, that is the best way they can be sure to properly identify the critical environmental issues and determine priorities for subsequent action plans. These plans need to be closely integrated with the economic adjustment programs underway in most developing countries. Fortunately, many of the reforms associated with these adjustment programs have favorable environmental effects. For example, lowering subsidies and raising prices to fully cover costs often help discourage waste of natural resources. Better education and extension services can reduce soil degradation. But economic reforms do not address all of the environmental sustainability issues. Further environmental reforms will be needed—including the reduction of population growth rates.

Where does this leave us in relating the debt crisis to environmental concerns? Although one problem did not cause the other, it is possible to link them in imaginative ways to help resolve both. Most improvements in environmental policies require resources that are lacking in many developing countries. At the same time, debts represent claims on these scarce resources. Thus reducing debt burdens could facilitate achieving environmental objectives as well as encouraging growth. For this link to be effective and the resource transfer justified on environmental grounds, however, beneficiary countries would need to give assurances that their intended environmental policy reforms would lead to sustainable growth patterns—much the way past debt reduction has been conditioned on economic policy reform. Otherwise, debt reduction will not help much, either economically or environmentally. It might even hurt to the extent that it appears to reward the behavior that led to the debt crisis and to the extent that resumption of growth along old lines continues to degrade the environment.

As the international community sets down this road, it should take great care to first determine how large a resource transfer is needed (or obtainable) for a country to implement its environmental reform program. Then the appropriate instruments of assistance can be identified, including, but not limited to, debt relief. Some countries have been able to swap part of their foreign debt for local instruments that help fund environmental programs. This is a useful approach, so long as the resource transfers meet the environmental objectives. But a few limitations should also be recognized: (1) these programs can mobilize only a small proportion of the resources needed to support environmental sustainability; (2) they affect only a small portion of the outstanding debt; and (3) debt relief may be appropriate and effective for some countries but not for others. Other sources of funds will also have to be used to meet most of the resource needs faced by developing countries (including nondebt crisis countries) to achieve environmental sustainability.

Equity. As countries tackle the debt and environmental problems, two issues of equity should be kept in mind—both of which involve the distribution of existing income or claims on wealth. The first concerns internal equity, a problem that predates the debt crisis and affects the consumption of resources. Unless extreme domestic income inequity is addressed and reduced, it will be hard to achieve sustainable environmental policies. The second concerns external equity in the allocation of official assistance among developing countries. All developing countries have national environmental problems, and many will require external resources to help solve them. Thus there is little logic in relating external resource transfers for environmental reasons primarily to past inability to service debt.

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Closing reflections

The juxtaposition of the debt and environmental crises is much more an index of our inability to cope systematically with multiple resource limitations than any evidence of strong causal links between the two issues. As a result of the debt crisis, it is satisfying to note that received development policy has come to terms with how to use market forces more effectively for the efficient allocation of resources to achieve growth. But from the still reluctant responses to the environmental crisis, it is apparent that we have only begun to consider means for assuring the environmental sustainability of development as well. These are issues of the scale of economic activity, of the rate of resource use, and of appropriate distribution of income derived from economic activity and from natural resources. These issues are not as easy to deal with in conventional neoclassical economics as are the production and allocation efficiency questions related to adopting market-oriented practices. But the fundamental criteria of maintaining total uses of resources within sustainable levels must be respected. ■

Managing the World's Forests

"Among the scenes which are deeply impressed on my mind, none exceed in sublimity the primeval forests.... No one can stand in these solitudes unmoved...."

These words from Charles Darwin take on new meaning in today's environmentally conscious world. Forests, after all, are the most widespread terrestrial ecosystem. Covering around 30 percent of the earth's total land area, they play vital roles in natural systems, as well as in economic development.

Forests form an integral component of the biosphere, essential to the stabilization of global climate and the management of water and land. They are home for countless plants and animals that are vital elements of our life-supporting systems, as well as for millions of forest dwellers. They provide goods for direct consumption (including recreational activities) and land for food production. They also represent capital when converted to shelter and infrastructure.

What must be done to balance conservation and development

Narendra Sharma
and
Raymond Rowe

The two main types of forests are tropical, which are rich in biodiversity and valuable tropical hardwood, and temperate, which serve as the world's primary source of industrial wood. The temperate forests (1.5 billion hectares) can be found mainly in developed countries, whereas the tropical forests (both moist and dry, totaling about 1.5 billion ha each) stretch across the developing world. Two thirds of the tropical moist forests are in Latin America, with the remainder split between Africa and Asia; three quarters of the tropical dry forests are in Africa.

But in recent years, there has been an alarming increase in destructive deforestation and land degradation in developing countries, reflecting the earlier development experiences of industrial countries, when large areas of the world's temperate forests were cleared for agriculture, timber, and fuelwood. Recent studies show that deforestation, especially in the tropics, has risen to an estimated 17–20 million ha annually—almost equivalent in area to the United Kingdom or Uganda—from around 11.4 million ha in 1980. Those hardest hit include Costa Rica, Côte d'Ivoire, Ghana, Honduras, India, Nepal, Nigeria, Thailand, and the Philippines. In the temperate region, old-growth forests are also at risk. Furthermore, forest degradation, largely from acid precipitation, is harming large areas of temperate forests, especially in Eastern Europe.

Already, the misuse of forests has brought with it significant social, economic, and environmental costs. Many developing countries, especially in Africa and South Asia, face acute shortages of fuelwood, fodder, timber, and other forest products, not to mention the displacement of their forest dwellers. There has also been a loss of biological diversity, possible global climate change, degradation of watersheds, and desertification. The loss of tropical moist forests is especially worrying, as they provide habitats for more than 50 percent of the world's plants and animal species, generate genetic materials for food and medicine, and influence the climate, both at the regional and global level.

In recent years, with an increased understanding of—and concern about—the environmental consequences of destructive deforestation, people all over the world have expressed a

The Bank's evolving role in forestry

For decades now, the Bank's lending to the forestry sector has mirrored its overall approach to the development process. Initially, when the problem looked to be one of capital accumulation and utilization of idle resources, the emphasis was on industrial forestry (specialized plantations and large wood-processing industries), as a way of promoting economic growth and generating foreign exchange and government revenues. But as the Bank turned its attention to a broader social agenda—poverty, rural development, and women in development—the emphasis shifted toward people-oriented forestry programs (social forestry, agroforestry, and fuelwood plantations), as recommended in its 1977 policy paper on forestry.

Since then, the Bank has sharply stepped up its forestry lending. Indeed, more than 90 percent of its total lending in this area (an aggregate $2.3 billion through fiscal year 1990) has taken place just in the past 13 years. During this time, the Bank has also moved toward watershed management and the rehabilitation of degraded lands by involving both local people and the private sector. In addition, forestry components have been included in rural development, agriculture, energy, industry, and area development projects.

In recent years, the Bank has further refined its approach, as stated in its 1991 policy paper on forestry. This reflects the growing urgency of the issue, a better understanding of the causes and implications of degradation, and a recognition that Bank lending for other projects (particularly agricultural settlements and infrastructure) has sometimes had an undesirable impact on forest resources.

The new approach is multisectoral, calling for due consideration of both development and conservation needs. In tropical moist forests, the Bank will encourage governments to adopt a precautionary policy toward the use of forest resources, since there is limited scientific knowledge about these ecosystems and biodiversity and since further work is required to establish viable sustainable management systems for commercial logging. Specifically, the Bank will not finance commercial logging in primary tropical moist forests. Also, financing of infrastructure projects (e.g., roads, dams, and mines) that may lead to the loss of these and other primary forests will be subject to rigorous environmental and social assessments.

In all countries, and for all types of forests, Bank lending operations in the forestry sector will distinguish between projects that are clearly environmentally protective (such as reforestation to protect watersheds), or socially oriented (e.g., farm and social forestry), and all other forestry operations (e.g., commercial plantations). The first two types will be assessed in terms of their social, economic, and environmental merits. The third type will require government commitment to conservation and sustainable use of forest resources, as well as to an improved policy and institutional environment.

desire for the sustainable use of forests. But there are strong differences of opinion among people, as well as among nations, about how best to balance conservation and development goals. Further complicating matters is the fact that in industrial countries, there is increasing concern for environmental and preservation considerations and the aesthetic qualities of forests, whereas in developing countries, where people are striving to achieve economic development, forests are frequently seen as a source of food, raw material, and capital. The world community must find a way of reconciling these diverse interests in order to create incentives and values that will foster the wise use of forests. The challenge is twofold: to stabilize existing forests by arresting destructive deforestation and to increase forest resources by planting trees.

Causes of degradation

The first step in devising strategies to put an end to destructive deforestation and land degradation is not only to understand what has triggered the recent rise in the scale and intensity of forest use but also to recognize that these causes emanate from outside the forestry sector. Certainly, direct causes include agricultural encroachment (responsible for 60–70 percent of the annual clearing of tropical moist forests), cattle ranching, fuelwood gathering (accounting for the largest share of wood use in developing countries), commercial logging, and infrastructure development. But these causal factors are driven by economic, social, and political forces, which manifest themselves through market and policy failures, population pressures, and poverty.

Market and policy failures. Here the problem is one of economics—in this case, there are powerful incentives to exploit the forests. Market failures include: (1) absence of clearly defined property rights on forest resources, both within a particular time period and between the present and the future; (2) the conflict between the time horizon of present individuals and society's need to protect forests for future generations, which creates a bias in favor of exploiting forests now; (3) the difficulty of valuing joint products and nonmarket environmental services (e.g., biodiversity); and (4) the existence of externalities—the divergence between private and social costs.

In many countries where the government is the principal holder of forest property rights, traditional systems of providing access to forests and allocating common property resources to local people have broken down. Often a government's disregard of traditional rights of local people makes forests more vulnerable to open-access problems. Moreover, in many instances, governments lack the capacity to manage forests effectively and control access to forest land under public ownership.

Public policies could help compensate for these failures, but to date, by distorting the real (or scarcity) cost of forest resources, they have done just the opposite. Indeed, the experience in many developing countries (e.g., Brazil, Ecuador, Côte d'Ivoire, Indonesia, and Nigeria) shows that agricultural incentive policies, land tenure, colonization, resettlement, taxation, credit, and trade policies have often encouraged the expansion of agricultural frontier at the expense of forests. Further aggravating matters has been the severe underpricing of tropical timber through deficient royalty and concession policies, inefficient fuelwood policies, and the weak enforcement of existing regulations and concessions.

Population growth and poverty. At the same time, in many countries, rapid population growth has intensified pressure to convert forest areas to other uses, as well as to exploit forests for short-term benefits. This is especially true for those with high population densities (e.g., Bangladesh, El Salvador, Haiti, and Nepal). Even in these countries, however, political and social issues (for example, skewed land distribution, agricultural policies, and poverty) provide the context for and influence the magnitude of the impact on forest resources. Poor families feel obligated to have many children to provide household help, protection, and old-age support, thus increasing the reliance on natural resources for household food and energy. They also rely on forests for income and subsistence needs and unless given property rights or offered better economic opportunities, will continue to exploit forests. An inadequate government response to increasing land scarcity, especially in densely populated areas, does not help, as it encourages the clearing of forests for farming.

What can be done?

As countries try to stabilize existing forests and increase forest resources, they face many important questions: How much forest should be maintained to meet the desired economic, social, conservation, and environmental objectives? How should these resources be classified and managed to reflect both the productive and the protective functions of forests? And to what extent should global concerns be reflected in these decisions?

The answers go beyond the scope of economics or the market—certainly, critical ecological, ethical, equity, and sociopolitical considerations are involved as well. Ideally, all remaining natural forests should be kept intact, but this would be unrealistic given the needs—real or perceived—of all countries for social and economic progress. In the end, most countries will opt for a solution that attempts to balance conservation and development objectives by maintaining intact forests for a variety of uses. But it will be up to them to demonstrate to the global community—shouldering the "burden of proof"—that this usage is both necessary and ecologically sustainable.

Looking ahead, the 1990s no doubt will bring continued deforestation, especially in tropical areas, as countries try to accelerate economic growth and cope with the pressures of surging populations and poverty. The transition to conservation and sustainable use of forests will take many decades, most likely evolving through incremental responses and adjustments. Appropriate local, national, and global actions will be vital.

Actions needed at the local and national levels. Each country must formulate its own forest policy, taking into account both local considerations and the need to balance the values of conserving forests for the future with current decisions about land use and management of forest ecosystems for multiple uses, including timber harvesting. In making the transition to sustainable use of forest resources, a multisectoral approach is needed. Development efforts and operations in other productive sectors, such as agriculture, energy, and industry, should promote forest conservation by minimizing destructive deforestation. An important first step will be for governments to change the existing incentives. This will involve:

- the elimination of current policy distortions by correcting concession policy and royalty systems, removing explicit and implicit export subsidies on timber and other forest products, and revising incentives that encourage uncontrolled destruction of forests for expanding agriculture; and
- the correction of market failures by defining property rights more clearly, and creating private incentives for planting trees, practicing preservation, and establishing sustainable management systems for timber production.

At the same time, governments will need to devise proper land use policies (including land tenure arrangements) that clearly spell out how forests are to be used. For example, different areas of an intact forest could be set aside for (1) conservation of biodiversity and environmental services, (2) production of timber and nonwood products, (3) conversion to sustainable agriculture, (4) restoration, and (5) multiple uses. Governments will also need to ensure that related sectors (such as agriculture, energy, transportation, and industry) pursue appropriate policies that take into account environmental consequences relating to forest ecosystems. In the case of agriculture, governments should take strong measures to accelerate production through intensified agriculture (i.e., improving production systems, land-use practices, technological packages, incentives, and markets).

But who should pay for the cost of preserving forests for the benefit of the world community, now and in the future? What proportion of the cost should be met nationally if the benefits accrue locally? How should countries and affected social groups be compensated for income forgone as a result of forest preservation that benefits everyone? And how should that compensation be determined? These difficult questions lie at the heart of the conflict between development and forest preservation, and so far, there are no easy answers. But clearly, governments will need to include the value of nonmarket forest functions into the cost-benefit analysis of development projects. They will also have to include the total values of forests and forest lands in national resource accounting systems.

Actions needed at the global level. As individual countries take steps to improve the use of forest resources, the world community can—and must—help, as it carries the "burden of responsibility." In the 1980s, a number of important initiatives were launched—the Global Environment Facility, the Tropical Forestry Action Plan, debt-for-nature swaps, and the establishment of the International Tropical Forest Timber Organization. But more needs to be done, and urgently. The international community needs to develop a global strategy for forest management supporting:

- conservation of forests through sustainable management for multiple uses;
- expansion of protected areas for the preservation of diverse forest ecosystems through global efforts;
- augmentation of forest resources through planting trees to meet demand for forest products and to provide environmental services and ecosystem protection;
- establishment of preconditions—including policy and institutional frameworks, research, and human capital development—for sustainable use of forest resources;
- development of programs for intensifying agriculture and promoting rural development, especially in densely populated areas adjacent to forests; and
- scientific research aimed at closing major gaps in our understanding of natural systems (such as a forest ecosystem) and potential consequences of human interactions with forest ecosystems.

The international community also needs to increase funding markedly for the preservation of ecologically diverse forest ecosystems and reforestation, providing concessionary funding (in addition to contributing to the cost of preservation) where significant regional and global benefits are clear. As the rapid loss of natural forests, combined with other forms of environmental degradation, pushes the planet to the threshold of crisis, individual nations and the world community at large should—by sharing responsibility—accelerate the transition to the sustainable use of forest resources. ■

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Population, Agriculture, and the Environment in Africa

These elements interact in vital ways for sustainable development

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Over the past 30 years, most of Sub-Saharan Africa has seen very rapid population growth, poor agricultural performance, and increasing environmental degradation. Why do these problems seem so intractable? Are they connected? Do they reinforce each other? If so, what are the critical links? These are the questions a recently completed study in the World Bank sought to answer. The approach was to review the literature and available country data to test the hypothesis that there are strong interrelationships between population, agriculture, and the environment. The findings suggest that this nexus is very much at work in Sub-Saharan Africa and that development efforts would be far more effective if their design reflected this.

The nexus

Key links are found in traditional crop and livestock production methods, land tenure systems, women's responsibilities, and methods of forest resource utilization. The traditional systems and practices were well suited to people's survival needs when population densities were low. As populations grew slowly, they evolved in response. But with the acceleration of population growth in the 1950s, these traditional ways came under increasing strain—eventually to the point of being overwhelmed. The result has been the triad of problems noted at the outset.

Shifting cultivation and pastoralism. Shifting or long-fallow cultivation and pastoralism were appropriate responses to abundant land and limited capital. The key was mobility: people moved when crop yields declined or forage was depleted, allowing soil fertility to be restored through natural vegetative growth and decay. Where population density increased slowly, land use systems gradually became more intensive—as in the East African highlands. Where land was abundant, more could be gradually brought into the farming cycle. But with rapid population growth, people are increasingly compelled to remain in place—yet their farming techniques have not evolved sufficiently to permit sustainable permanent farming. As a result, soil fertility and structure deteriorate, crop yields decline, and soils erode. Extreme cases can be observed in Rwanda, the Central Plateau in Burkina Faso, and parts of Nigeria.

Although one of the conditions that led Asian farmers to adopt "green revolution" technology—abundant labor relative to cultivable land—is emerging in parts of Africa, technological innovation has been very slow. Ineffective agricultural research and extension is only part of the reason. Poor transport infrastructure severely blunts farmers' incentives to switch from subsistence to market production, and from extensive to intensive farming. Inappropriate price, exchange rate, and fiscal policies have reduced the profitability of market-oriented agriculture, prevented significant productivity gains, and contributed to the persistence of rural poverty and increasingly destructive traditional land use practices.

Women's responsibilities and time. The multiple roles of women in rural production and household maintenance systems and the heavy demands on their time are key aspects of the nexus. In addition to bearing and rearing children, most African women have heavy responsibilities for foodcrop production, working on men's fields, post-harvest processing, fuelwood and water provision, commodity porterage, and household maintenance. In Zambia, farm women contribute more hours daily than men to farm work (8.5 hours versus 7.4 hours) and to nonagricultural tasks (5 hours versus 1.1 hours). Moreover, the burdens on rural women are increasing. Growing numbers of men leave the farms for urban and industrial jobs—in the Congo, for example, 70 percent of farm household heads are now women. With increasing environmental degradation, women must walk further to fetch fuelwood and water. They also face severe constraints on access to extension advice, institutional credit, and improved production, processing, and transport technology.

Demand for children. Underlying the persistence of very high fertility rates is low demand for fewer children. Environmental degradation, food insecurity, land tenure systems, and cultural traditions all help stimulate demand for children. So do the heavy work loads and severe time pressure faced by women, as they increase the need for child labor. In the short term, children can produce more than they consume. But the cycle is a vicious one. Women's time constraints and water and fuelwood scarcity negatively affect infant health and mortality and, hence, attitudes toward family planning. Girls kept out of school to help with domestic tasks tend to marry young and have many children during their adult life. Where survey data are available, the percentage of married women who demand contraception to limit family size ranged from a low of 6.4 percent in Mali to a high of 33.9 percent in Kenya, compared with 30–50 percent in North Africa, 36–55 percent in Asia, and 40–60 percent in South America.

Land tenure systems. Traditional tenure systems, with communal land owner-

This article is based on a forthcoming World Bank Monograph by the authors.

ship, provide considerable tenurial security on land farmed by community members. With slow population growth, these systems were able to accommodate the emerging need to move toward *de facto* permanence of land rights assignments. Problems have arisen, however. Rights to trees are often separate from other land use rights; the development of valley bottoms for farming constrains the mobility of herders who have traditionally depended on this land; and increasing rural-rural migration is causing conflicts over land ownership and use.

Many governments have responded by nationalizing land, and then allowing customary rules to guide the use of some land, while allocating other land to private investors and public projects. Some, such as Kenya, have issued individual land titles, generally ignoring the prior existence of customary tenure arrangements. In most cases, the results have differed considerably from the stated intent. Often, the well-connected have succeeded in wresting land from its customary owner-occupants. Governmental interference has almost always reduced tenurial security, accelerated the breakdown of customary land management systems, and, especially in forest and range areas, spurred the emergence of *de facto* open-access conditions that are inimical to private investment in land improvement or resource conservation. In Côte d'Ivoire, for example, nationalization of most land, combined with some land titling, *de facto* recognition of traditional tenure arrangements except when it suits government interests not to do so, and massive immigration from the Sahel, has created an open-access situation in forest areas where anyone can exploit the land but no one can claim ownership. This has contributed to the destruction of the forests.

Forest and woodland exploitation. The heavy dependency on woodfuels has combined with rapid population growth to contribute to accelerating forest and woodland destruction, especially around major urban centers. Since fuelwood is generally considered a free good, taken largely from land to which everyone has access, efficient markets for fuelwood have not developed, despite its increasing scarcity. Commercial logging has been directly responsible for only 10 to 20 percent of forest destruction in Sub-Saharan Africa, but it usually leads to a second phase of destruction: logging roads provide access for settlers who continue the deforestation the loggers have begun. The degradation and destruction of forests and woodlands accelerates soil degradation and erosion and harms local and regional climates and hydrological regimes, which in turn negatively affects agriculture. The worsening fuelwood and water supply situation also forces women and children to spend more time collecting these necessities.

What is to be done?

Clearly, new approaches are needed. But what form should they take? The study strongly suggests that future efforts must build on the crucial cross-sectoral links and synergies of the population-agriculture-environment nexus. They should also place far more emphasis on promoting effective demand for environmentally benign intensive farming, family planning, and resource conservation. Simply put, successful agricultural development necessitates adequate attention to demographic and environmental concerns—just as preventing further environmental degradation requires intensifying agriculture and lowering fertility rates and population growth.

If the nexus synergies are harnessed, it should be possible to meet a number of key demographic, agricultural, food security, and environmental objectives within the next 30 years. Indicative targets for Sub-Saharan Africa as a whole illustrate the magnitude of the effort required. Agricultural production needs to grow at about 4 percent per annum. By the year 2010, daily per capita calorie intake should be raised from the present average of 2,095 to about 2,400. Deforestation needs to be slowed and the area of forests, woodlands, and wilderness gradually stabilized. This will require that the further expansion of cropped land be limited—necessitating rapid agricultural intensification. And the average total fertility rate needs to be lowered by 50 percent over the next 30 years, so as to reduce population growth to 2.2 percent per annum.

Fertility rates. It is essential to increase demand for family planning. Boosting girls' school enrollment rates is critical. Easing women's work loads will reduce the need for child labor. Better health care and access to safe water will improve child survival rates. So will dynamic agricultural development and improved food security. Where demand for reducing fertility rises, it must be met with effective family planning services.

Women's time. Work is needed in many fields to ease women's time constraints and improve their productivity. Much can be learned from nongovernmental organizations—in establishing water supply systems, developing locally appropriate fuel- and time-saving stoves, providing better tools and techniques, facilitating access to land and credit, improving local transport infrastructure, and providing suitable transport aids.

Environmentally sustainable agriculture. Research and extension services need to focus on environmentally benign and economically viable agricultural techniques (e.g., contour farming, intercropping and crop rotation systems, and water harvesting), along with the promotion of increased fertilizer use and farm mechanization. Creating demand for intensive and resource-conserving agriculture requires appropriate marketing, price, tax, and exchange rate policies, as well as investments in rural infrastructure, health, and education facilities. Creating conservation areas and protecting these against encroachment will be important. If know-how and inputs are available, land scarcity induces agricultural intensification. Tenurial security stimulates land conservation and tree planting.

Resource ownership. Eliminating open-access systems is of utmost urgency. Where traditional tenure systems are evolving toward explicit recognition of individual ownership and transfer rights, they should be protected by law and supported by appropriate administrative arrangements. State ownership of farm land should be eliminated. Where possible, forest and range lands should be assigned to traditional users or local communities, with use rights linked to the responsibility for conservation. Where traditional systems have collapsed, individual titling is likely to be needed, but it should be provided only on demand and to the customary owners. Women need the same rights to land and tenurial security as men.

The fuelwood problem. Effective agroforestry activities can have a major impact on the environment, farming, the rural energy economy, and women's time. Woodfuel markets will develop more rapidly if open access to fuelwood is eliminated, people can freely market wood from their own land, and communities and farmers have uncontested ownership of local forests and woodlands.

Environmental resource conservation. Protecting forests and other conservation areas stabilizes local and regional climate and hydrology, stimulates agricultural intensification, and ensures the provision of forest products and environmental services. Appropriate targeting of urban and infrastructure development can be a powerful tool to guide settlers into environmentally resilient areas with agricultural potential and keep them out of fragile areas. Regional and local land use plans can go far in reconciling objectives of natural resource management, population and settlement policy, and agricultural and infrastructure development. The local people need to be directly involved in formulating and implementing such plans. ■

Revitalizing UNCTAD

In a period of global change, the United Nations Conference on Trade and Development takes a different tack at its eighth quadrennial session

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UNCTAD VIII took place in Cartagena de Indias, Colombia, during February 1992 against a background of dramatic and rapid changes in the global political and economic environment. The session was virtually free of the polemics and tensions between the East and the West and the North and the South that characterized earlier meetings. It reflected, instead, a broad consensus on market-oriented economic policies and political pluralism. As a result, UNCTAD began a major institutional reform that will allow it to respond rapidly to changing global realities through a new organizational structure, orientation, and work program. The byword at UNCTAD VIII, if any, was "consensus building" and no longer negotiations. This break from the past augurs well for the future role of this body. With the structure agreed, it is now the challenge to set specific agendas. As this could involve longstanding contentious issues, the effective shape of reform remains to be set.

The backdrop

Established in 1964 (see box), UNCTAD was designed to serve as a forum in which trade-related development issues could be discussed and analyzed to lead to the negotiations of international understandings on issues that were in dispute. Given the important role of primary commodities and natural resources in the external sectors of developing countries, the initial focus of the institution was on commodity policy and efforts to stabilize and expand the export earnings of these countries. In the process, UNCTAD adopted a group approach to negotiations, with the industrial economies of the Organization for Economic Co-operation and Development lining up together (Group B), the centrally planned economies of Central and Eastern Europe and the Soviet Union plus a few other similar economies forming their own grouping (Group D), and the developing countries coming together under the aegis of the Group of 77 to coordinate their positions. China formed a separate group.

Despite the debates and disagreements, over the years UNCTAD played a key role in the emergence of the Generalized System of Preferences, a maritime shipping code, special international programs to help the least developed countries, and international aid targets. During the 1970s, in line with the major changes in the international economic environment—the breakdown of the Bretton Woods system, oil price shocks, inflation, and accumulation of debt by many developing countries—UNCTAD became a central forum for debates between the North and the South. Its negotiations became politically charged and most of its sessions during the 1970s and 1980s reflected sharp divisions between participants. Even as a global consensus seemed to be emerging in the 1980s on the diagnosis and cures for economic problems, UNCTAD did not appear to change. An increasing number of member states saw the institution becoming progressively marginalized while the economic issues that needed to be resolved were becoming increasingly complex.

UNCTAD VIII took place against a backdrop of divergent economic and financial developments of the 1980s. Some developing countries, for example, the newly industrialized economies in Asia, recorded impressive growth, but many others had disappointingly low growth rates. The developing countries asserted that the international economic environment had not been conducive to development during the 1980s, as the debt crisis dominated, and aid flows were inadequate. This situation was further compounded in the early 1990s by the recessionary tendencies in many industrial countries. Throughout the 1980s, the developing countries saw declines in their commodity prices and terms of trade, as well as persistent positive real interest rates, resulting in an increase in the share of real resources being absorbed by debt service. Moreover, reversals of price trends did not appear likely, and negative real interest rates that had spawned earlier borrowings and kept many economies afloat were no longer a feature of the system.

Faced with these stark realities, an increasing number of countries adapted their growth and development policies to a market orientation and began to undertake structural adjustment, involving exchange rate realignments and outward-looking liberalization of their economies. By the end of the 1980s, despite reductions in economic imbalances, improvements in export performance, and progress in improving debt profiles and reducing debt-servicing costs, structural reforms remained unfinished, and the debt problem remained of concern to many developing countries.

Results from Cartagena

The major issue at UNCTAD VIII was the role of UNCTAD itself. The some 170 member states reached agreement on the broad features for revitalizing UNCTAD, to make it more effective in dealing with development-related issues. These features were set out in the Final Act of the Conference, adopted by consensus. This Final Act reflected a less confrontational approach to development issues than at earlier conferences. As it was the first since the break up of the Soviet Bloc, the Conference brought together a virtually uni-

versal view that economic policies based on market forces were the best basis for achieving development—by creating employment and increasing incomes.

A key focal point of the "new" UNCTAD will be the identification of domestic policies needed to promote growth and development. This will be achieved through consensus building rather than the earlier approach that attempted to negotiate binding international agreements or resolutions.

The traditional four-group system in UNCTAD gave way to shifting coalitions geared to consensus building. Group D—the centrally planned bloc—had effectively disintegrated. Both the Group of 77 and Group B—the developed nations—adopted more flexible group structures. At UNCTAD VIII, the OECD countries did not appear to coordinate their positions, except that the European Community used one spokesman. The Group of 77 split into regional groupings with the Asian group maintaining the tightest coordination under a single spokesman. A Western Hemisphere coalition (including the United States, Canada, and a number of Latin American countries, notably Chile, Colombia, and Mexico, and sometimes including Australia) tended to be a major force in shaping the proceedings. This new flexibility in groupings is viewed as a cornerstone of the revitalized UNCTAD.

Although UNCTAD's mandate is far-reaching, the need for strict selectivity of issues to be covered was widely recognized. This was coupled with the view of some participants that UNCTAD should not initiate policy recommendations in those areas that were the primary responsibility of other institutions (e.g., financial and trade policies). A new structure for the operation of UNCTAD emerged out of these deliberations (see box).

A three-tiered approach to UNCTAD was agreed, including:

- The creation of an executive committee of the Trade and Development Board (TDB), consisting of permanent representatives to UNCTAD in Geneva, which will meet periodically (the intention is monthly) to guide UNCTAD's work program;
- Establishment of four new standing committees, with the existing standing commitees scrapped (except the Special Committee on Preferences and the Inter-Governmental Group of Experts on Restrictive Business Practices); and
- Creation of five ad hoc working groups to support the committees and the TDB.

Another feature of the new structure is that the committees and working groups have fixed terms.

What is UNCTAD?

UNCTAD was established as a permanent organ of the United Nations General Assembly in December 1964, after the first UN Conference on Trade and Development (UNCTAD I). The Conference normally meets every four years. Past meetings were:

UNCTAD I - Geneva 1964
UNCTAD II - New Delhi 1968
UNCTAD III - Santiago 1972
UNCTAD IV - Nairobi 1976
UNCTAD V - Manila 1979
UNCTAD VI - Belgrade 1983
UNCTAD VII - Geneva 1987

New structure

UNCTAD VIII agreed on a new structure that includes:

- *The Conference*, which meets every four years;
- The *Trade and Development Board*, which meets twice a year in Regular Session, and in Special Session as required;
- An *Executive Committee* of the Board, composed of the permanent representatives in Geneva to UNCTAD, to meet periodically (perhaps monthly);
- New *standing committees* on commodities; poverty alleviation; economic cooperation among developing countries; and services;
- Continued *Special Committee and groups*: Special Committee on Preferences and Intergovernmental Group of Experts on Restrictive Business Practices;
- *Ad hoc working groups* to deal with the following topical areas:
  Investment and financial flows; nondebt creating finance for development; new mechanisms for increasing investment and financial flows.
  Trade efficiency.
  Comparative experiences with privatization.
  Expansion of trading opportunities for developing countries.
  Interrelationship between investment and technology transfers.

Remaining issues

Despite the agreement on this approach to the future work of UNCTAD, much remains to be done, particularly on the detailed operational mandates of the various bodies that have been set up. The terms of reference for all entities emerging out of UNCTAD VIII have to be defined, even for the two committees that carry over the same name from the earlier structure.

The focus of attention though will not be on international negotiations and mechanism. Rather, it will be on appropriate domestic policies and measures in the relevant areas, and on comparative national experience. On commodities, for example, the aim will be to promote market efficiency and diversification. On services, the aim will be to foster a competitive service sector in developing countries and to provide technical assistance by UNCTAD to allow those countries to liberalize this sector in line with undertakings made under the Uruguay Round. Further, the new structure is not permanent. Working Groups are set up for two years initially, while the committees will be reviewed before UNCTAD IX, four years from now.

The working groups will also be asked to bring in national experts so that the deliberations of the groups are enriched with national experience and empirical evidence. Nongovernmental experts will also be invited to participate both in the working groups and in the public sessions of the TDB. They will also act in an advisory capacity to the committees. All these measures promise a greater cross fertilization of ideas than before.

The eventual success of the changes that emerged out of the Cartagena meetings depends on the subsequent actions of the TDB, particularly when it defines the terms of reference of the various bodies agreed to at UNCTAD VIII and sets out the work program. Those discussions may well revive some divisive issues. But it is only in their resolution that a revitalized UNCTAD will be set in motion. ■

Bangladesh: Tackling the Problem of Poverty

Assessing the impact of economic reforms on the poor

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With a per capita income of about $200 in 1991, Bangladesh is one of the poorest countries in the world. More than half the population—50 million people—live in poverty. The most vulnerable groups include small farmers, landless rural laborers, and workers in the urban informal sector. Health care, nutrition, and education standards are low, especially among women and children. The earning potential of most poor people is limited by their lack of skills, assets, and access to credit. Given its limited natural resources, high population density, and frequent natural disasters, Bangladesh faces an enormous challenge in its efforts to reduce poverty.

The only lasting way to reduce poverty is to ensure sustainable economic growth, by implementing policies to promote financial stability and the efficient use of resources. With this in mind, the Government launched a medium-term structural adjustment program in the mid-1980s, supported by the IMF—under the structural adjustment facility (SAF) during 1986/87–1988/89 and the enhanced structural adjustment facility (ESAF) covering 1990/91–1992/93. The Government's efforts have also been supported by the World Bank, other donors, and nongovernmental organizations (NGOs). This article examines the impact of adjustment programs in Bangladesh on the poor.

With the objective of stimulating growth and investment, the Government has adopted a policy program to (1) spur private investment through financial reform, exchange and trade liberalization, and industrial deregulation; (2) facilitate public investment by raising domestic revenues, curtailing government consumption, and improving project implementation; (3) reduce inflation; and (4) improve human resource development by strengthening social programs. These policies aim at promoting labor-intensive agricultural, industrial, and export production, and economic diversification. At the same time, since the benefits of growth may not reach the poor in the short run, these policies have been supplemented by targeted programs that provide special assistance to the poor.

The potential impact of a growth-oriented approach to poverty reduction can be illustrated by reference to the "crossover time," or the time it would take, in the absence of income redistribution policies, for the average poor person to cross the poverty line if his or her income grew at the national average per capita rate. For Bangladesh, the crossover time would be more than halved from the 40 years that would be required if the annual real per capita income were to continue to grow at a 1 percent rate, to 16 years, if annual per capita income were to reach the 2 1/2 percent targeted under the reform programs.

Impact of relative price changes

While it is generally observed that the poor are hardest hit by changes in relative prices during adjustment, this has not been the case in Bangladesh because price distortions have not been severe. This has not only reduced the need for sizable adjustment but has also allowed the pace of adjustment to be gradual. However, the Government recognizes that, as adjustment efforts are intensified, there could be more pronounced short-term adverse effects on the poor, which would require compensatory measures.

The main changes in relative prices resulting from the adjustment programs are those stemming from increases in ration prices for

Bangladesh: Impact on the poor of price changes under structural reforms
(Annual average percentage change)

	Weight in consumption (in percent)	Price change				Income loss	
		1981/84–1985/86	1986/87–1988/89 SAF program	1989/90	1990/91 First year ESAF	1986/87–1989/90	1990/91
Ration foodgrain prices	33.0					2.2	2.3
Rice		7.2	5.9	8.6	7.0		
Wheat		6.9	5.7	8.7	7.0		
Petroleum products[1]	4.0	9.8	0.2	–0.9	85.0	0.2	2.5[2]
Kerosene		–2.3	—	5.8	91.8		
Gasoline		–2.4	—	–38.0	70.7		
Diesel oil		–0.1	—	5.8	91.8		
Liquified petroleum gas		13.1	—	9.2	52.7		
Railway passenger fare	3.0	7.2	6.7	3.8	15.0	0.2	0.4
Electricity	2.0	9.0	6.6	7.5	6.5–16.7	0.1	0.3
Natural gas	1.0						
Household		15.3	11.5	16.0	15.0	0.1	0.1
Power and fertilizer		14.3	22.3	15.6	15.0		
Industry		12.0	11.9	16.7	15.0		
Commercial		20.5	21.9	7.5	15.0		
Total income loss						2.8	5.7[2]

Sources: Data provided by the Bangladesh authorities; and IMF staff estimates.
[1]Weighted average.
[2]In response to the 92 percent increase in kerosene prices, the poor are expected to substitute less expensive firewood for kerosene, as a result of which the net income loss would be 1.5 percent and the corresponding total income loss would be 4.7 percent.

A fuller discussion of this subject is contained in "Bangladesh: Economic Reform Measures and the Poor," by Padma Gotur, issued as IMF Working Paper WP/91/39.

foodgrains, prices of energy and transportation, and excise taxes. The direct impact of these changes on the poor varies, depending on the relative importance of the affected items in their consumption and the magnitude of the changes. The poor spend a high proportion of their income on food (about 60 percent) compared with the rest of the population, with more than half of such expenditure devoted to foodgrains. Given this consumption pattern, the changes in relative prices resulting from the program are estimated to have reduced the incomes of the poor by no more than 3–6 percent during 1986-91 (see table).

Increases in foodgrain prices. The Government's objective of reducing food subsidies and the budgetary cost of food distribution has been achieved, in part, through increases in food ration prices. The availability and cost of food no doubt have a major influence on the standard of living of the poor. Nevertheless, the impact of changes in ration prices on income has been limited because the poor obtain only 20 percent of the foodgrain they consume from the Public Food Distribution System, with the rest coming from production on their own parcels of land and from purchases in the private market. To further reduce even this limited impact, the Government is implementing a differentiated ration price increase for vulnerable groups and for better off recipients.

Increases in administered prices. The rationalization of public enterprises under the adjustment programs has led to increases in administered prices of several public goods and services, such as electricity, natural gas, and transportation. Though these imply higher consumption costs for the poor, the adverse impact on their income during 1986–91 is estimated at an annual rate of only 0.5–3 percent. Increased prices for energy, in particular, have only a limited impact on the rural poor because of their relatively low consumption of these products.

Increases in excises. Increases in excise taxes for sugar, tobacco, natural gas, and certain services result in higher prices. Their impact, however, may not be substantial since these goods together account for less than 10 percent of the consumption of the poor. In recent years, the Government has focused the levy of excise duties mainly on goods and services largely consumed by the higher-income groups, such as bank transactions, telephone services, and luxury goods. Consequently, the reduction in the income of the poor resulting from these price increases is estimated at less than 1 percent per annum.

Production, income, employment

Structural reforms have had a favorable impact on production, incomes, and employment. The poor benefited from the economic gains accruing to the population at large and from measures directed particularly to them.

Agricultural policies. The Government has given high priority to strengthening output growth and ensuring national food security. The main impetus for growth has come from the agricultural sector, which expanded considerably, largely because of improved policies. These policies have far-reaching implications in Bangladesh, where land ownership is the main determinant of rural incomes and about 60 percent of the labor force is employed in agriculture.

To increase foodgrain production, the Government has taken measures to strengthen the role of the private sector in the distribution of inputs, improve research and extension services, and extend the provision of rural credit. These policies have increased the availability of irrigation equipment and supplies of seeds and fertilizer for small farmers. Increased foodgrain production has benefited both consumers and rural landless households by ensuring availability of food at realistic prices as well as employment and income opportunities. In addition, improvements in the Public Food Distribution System—such as aid-financed imports, open market operations to stabilize prices, and improved marketing, transport, and storage facilities—have provided greater support to low-income families.

Tax reform. An important element of adjustment programs is tax reform aimed at improving resource mobilization. This should provide the additional resources needed for development projects, with potentially favorable consequences for output and employment. In Bangladesh, the poor are not likely to be adversely affected by tax reform, as their total income tax burden is estimated at only 4 percent of their household income. As for indirect taxes, these are levied mainly on commodities that are not consumed by the poor.

Public expenditure policies. These policies support poverty reduction efforts by directing resources to human resource development, welfare, and agricultural development. In cooperation with the donor community, the Government aims to fully fund programs to expand primary education and health and family planning services. Additional expenditure on agriculture and water resource management should help create more jobs for the poor in rural areas. Increased allocations for flood preparedness programs, which would strengthen early warning systems, medical services, and food security in the event of disasters, would particularly benefit the poor.

Financial reform, and exchange rate and trade liberalization. Policies in these areas should generate additional employment, especially in export-oriented activities and efficient import substitution. Indeed, during the SAF period, improved competitiveness, resulting from earlier exchange rate depreciation, helped develop the ready-made garment industry, which today employs 500,000 persons, mainly previously unemployed women. Current reforms continue to emphasize labor-intensive export production. Given the potential for exports of electronics, toys, luggage, and leather products, export volume is projected to show strong growth and generate 350,000 additional jobs.

Targeted programs and NGOs

Targeted programs, which initially focused on ensuring food supplies to the poor, have been broadened to include literacy, health, and skill acquisition components. Two programs—the Food for Work program, which provides wages in the form of food for temporary rural works, and the Vulnerable Group Development program, targeted at disadvantaged women and children—were expanded to account for 40 percent of the total amount of the food distributed by the Public Food Distribution System. These schemes have reached about three million persons, including 500,000 women, with at least three fourths of the poor receiving assistance.

Recognizing the budgetary, technical, and administrative constraints that affect targeted programs, the Government has encouraged greater NGO participation in this effort. There are about 400 NGOs operating in Bangladesh—along with 12,000 voluntary social welfare agencies—which assist the poor, especially women, by providing credit, training, primary education, basic health care, nutrition, and family planning facilities. The work of many NGOs has been shifting from emergency relief toward development-oriented programs, especially those aimed at improving employment and income in rural areas.

Conclusion

The main thrust of the Bangladesh Government's strategy of poverty reduction has been to strengthen output growth and ensure food security. Increasingly, however, its attention has also turned to improving human resource development and the efficiency of targeted programs, with a greater role provided to NGOs. Nevertheless, poverty will remain a pervasive problem.Thus, any progress achieved should be regarded as only the beginning of a major effort that will need expansion in scope, demand greater resources, and continue over many years. ■

Colombia: Economic Adjustment and the Poor

Measures to protect the living standards of low-income groups complement a sound economic strategy

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In the mid-1980s, faced with a rapidly deteriorating economic and financial picture, Colombia undertook a strong adjustment program, monitored by the IMF. By putting the economy on a sounder footing, the Government felt that the population in general stood much to gain from the program in the medium run. But it also recognized the likely short-run hardships for low-income groups.

With that in mind, the Government enacted measures designed to protect lower-income groups—mainly increases in the minimum wage and the exemption of all food items from the import surcharge. As we look at the program in retrospect, the Government's efforts to reorient the economy largely appear to have paid off. Getting hard evidence on how the "core" poor fared during this period, however, is more elusive. Nevertheless, the information available suggests that the program was probably successful in protecting the lower middle class and the working poor.

The need for a change

Colombia's economy began to show signs of a serious deterioration in the early 1980s, when real economic growth averaged only 1.6 percent, sharply down from the 4.9 percent annual rate during 1975–80, and the public sector and balance of payments deficits widened markedly. This was due both to outside factors, principally the decline in international coffee prices, and to expansionary domestic policies.

After trying a series of piecemeal measures that did little to correct the situation, in 1985, Colombia adopted a tough reform program, relying on tight monetary and fiscal policies and a large exchange rate devaluation. It was designed to quickly restore the level of external competitiveness that had prevailed in the mid-1970s. In addition, a medium-term effort to liberalize the foreign trade regime was begun. At the Government's request, to facilitate financing arrangements with foreign commercial banks, the IMF provided support by reviewing and monitoring the reform program. The World Bank provided adjustment loans to support the structural reforms in trade policy, agriculture, and related areas.

By realigning the relative prices of foreign and domestic goods, reducing inflation, and improving economic growth, the Government hoped to raise living standards in both the short and the long run. At the same time, however, the Government recognized that certain measures could hurt lower-income groups in the short run. These included: an increase in the cost of imports due to the large depreciation of the exchange rate and the imposition of an 8 percent import surcharge; large increases in gasoline prices and public sector tariffs; the elimination of transportation subsidies; the removal of certain exemptions from the sales tax; and a sharp reduction in real terms in the public sector wage bill.

Exactly how low-income groups would be affected, however, was difficult to predict, as the poor are by no means a homogeneous group, and there are important gaps in information about their income and expenditure patterns. Nevertheless, it appeared that the above measures could add as much as 7 percentage points to the consumer price index for low-income households during the first year of the program. This was a real concern, given that roughly 14 percent of the urban population and 31 percent of the rural population are classified as poor, using the Government's narrowest definition of poverty (i.e., individuals whose incomes are not sufficient to buy a "basic basket" of goods).

Two caveats are in order, however. First, rural poverty may be overstated, as farmers can supplement their cash income with crops that they grow and consume themselves or barter for other goods. Second, there are important differences in poverty levels within rural and urban areas. In urban areas, for example, poverty is more prevalent in the smaller regional centers than in the large cities. In rural areas, the level of poverty is half the national average in the coffee growing areas, but double the national average in the Caribbean region where large estates predominate.

Information on sources of income is only available for the urban poor. As might be expected, most of them work in the informal sector, and as a result, close to two thirds of their income is derived from self-employment and temporary work. In rural areas, employment data suggest that about one quarter of the poor work on large farms and thus derive most of their income from wages. The rest of the rural poor, one must assume, receive their income primarily from working on their own land and from occasional jobs.

Measures to protect the poor

Given the many problems involved in designing specific measures to protect the core poor (e.g., identifying individuals, and logistic and administrative difficulties), the Government opted for measures to protect low-income groups generally, combined with an itensification of existing antipoverty programs. These took the form of:

Wage policies designed to protect

the real earnings of low-income groups. The minimum wage was increased by 20 percent, in line with projected inflation for the low-income consumer price index, as were wages of public sector workers at the bottom of the wage scale despite an overall cap of 10.5 percent on the public sector wage bill. Adjustment of the minimum wage has been traditionally an important social policy tool in Colombia, a country in which wage indexation is widespread. While generally adjusted annually, the minimum wage is set at a very low level, just equivalent to the income required to keep an individual above the Government's definition of the "poverty line."

Although there is no direct evidence concerning the relevance of the minimum wage for the poor, recent studies indicate that the adjustment of minimum wages explains a significant portion of the increase in average wages in construction, the public sector, and the informal sector—activities in which the poor might be expected to be more heavily represented. Moreover, the adjustment of the minimum wage has apparently had a moderate, but increasing, influence on the growth of the average wage in rural areas, especially in traditional activities.

Selective exemptions from the import surcharge. A number of goods were exempted from the 8 percent surcharge, most notably food and fertilizers. There are no data on the importance of imports and imported production inputs in the food consumed by low-income groups. However, this measure, although not well targeted, was intended to mitigate the effect of the surcharge on low-income groups.

Antipoverty programs. The Government also continued to channel resources into one of its core poverty alleviation programs—the DRI (Program for Integrated Rural Development)—which concentrates on providing basic services and financial resources to small farmers. After 1986, a number of other antipoverty programs were launched, including:

- The PNR (Plan for National Rehabilitation)—a program that focuses on providing the basic necessities for the poorest 10–12 percent of the population, and includes land distribution, improvements in infrastructure, and enhanced public services; and
- The HBI (Better Homes for Children)—an innovative and successful World Bank-supported program that combines supplemental feeding and day care for children in poor communities with the education and training of their mothers.

How the poor fared

Most of the major objectives of the 1985 adjustment program were either achieved or exceeded. Real GDP rose by 3.1 percent, inflation was only slightly higher than targeted, and the unemployment rate stabilized at the 1984 level. On the external side, competitiveness was restored, as the exchange rate depreciated by 22 percent in real terms against the currencies of Colombia's main trading partners and by 50 percent against the US dollar.

External conditions shifted once again in 1986, due to the recovery of international coffee prices. The Government's main concern was to consolidate the gains made in 1985 and to prevent the surge in coffee earnings from leading to higher inflation. As a result, the 1986 program concentrated on further reducing the fiscal and external deficits, preventing the exchange rate from appreciating, and continuing with the gradual liberalization of foreign trade. The combination of the coffee boom and prudent domestic policies helped to eliminate the fiscal and balance of payments deficits in 1986. Real GDP grew by 6 percent, inflation was reduced, and real wages and employment recovered strongly.

What did this mean for low-income groups? With the data available, it is difficult to trace exactly how the poor were affected and which segments did better than others. Nonetheless, data on the evolution of income distribution in urban areas show that, over the period 1983–85, those in the lower middle class (i.e., those in the second to the bottom income bracket) improved their position relative to other groups, while those in the lowest income bracket lost ground (see table).

Steps to protect the low wage earners were critical. Given that the consumer price index of low-income groups rose by 22.7 percent in 1985, those receiving the minimum wage and lower-level public sector workers were thus relatively well protected from the price increases by the government's wage policy. This compares with typical reductions in the inflation-adjusted wages of those in other sectors of around 4.5 percent. In 1986, under the influence of the coffee boom, real wages for the poor and nonpoor alike recovered strongly.

Trying to trace the impact of the adjustment measures on the position of low-income groups in the medium run, however, is complicated by the sharp recovery of coffee prices in 1986. Although hard evidence is lacking, it would seem that the adjustment measures, particularly the realignment of the exchange rate, placed the economy in a better position to benefit from the subsequent coffee boom and to maintain balanced growth in the longer run—a development that would improve the position of all income groups, and the poor in particular. The income distribution data in the table indeed suggest that between 1985 and 1988, the position of those in the bottom 50 percent of the income scale did improve, and this improvement was most noticeable for those in the lowest income group. Thus, the strategy of putting the economy back on the right track with sound macroeconomic policies, together with specific measures to help low-income groups, appears to have paid off. ■

Colombia: evolution of income, 1983–88[1]
(As percent of total)

	Income distribution			Assignment of changes in income distribution			
				1983–85		1985–88	
Income percentile	1983	1985	1988	Gainers	Losers	Gainers	Losers
1–25	7.1	6.8	7.5	—	15.2	64.1	—
26–50	14.5	15.0	15.2	29.3	—	21.4	—
51–75	21.3	20.7	20.6	—	38.4	14.5	27.0
76–90	21.8	21.1	20.6	—	40.9	—	49.9
91–95	11.6	11.5	11.5	—	5.5	—	2.9
96–100	23.8	24.9	24.7	70.7	—	—	20.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Gini coefficient[2]	0.43	0.45	0.44				

Source: Moreno, A., "La Distribución del Ingreso Laboral Urbano en Colombia, 1976–88," *Desarrollo y Sociedad*, No. 24 (September 1989), Table 5.
[1]Components may not add to totals due to rounding.
[2]The Gini coefficient measures the relative equality of income distribution. A reduction in the coefficient indicates an improvement in the equality of the income distribution.

GUEST ARTICLE

The Economic Woman in Africa

An African commentary from a sociological perspective

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In many traditional African cultures there is a belief that God made woman the custodian of fire, water, and earth. God Himself took charge of the fourth element of the universe—the omnipresent air.

Custody of fire entailed responsibility for making energy available. The greatest source of energy in rural Africa is firewood. The African woman became disproportionately responsible for finding and carrying huge bundles of firewood, though quite often it was the man who chopped down the big trees.

Custody of water involved a liquid that was a symbol of both survival and cleanliness. The African woman trekked long distances to fetch water. But where a well needed to be dug, it was often the man who did the digging.

The custody of earth has been part of a doctrine of dual fertility. The woman ensures the survival of this generation by maintaining a central role in cultivation—and preserving the fertility of the soil. She ensures the arrival of the next generation in her role as mother. This is quite apart from the more universal role of women as homemakers and as child rearers.

These responsibilities have weighed heavily on African women, and perhaps on women in other traditional societies. Yet, men have played a disproportionate, though by no means exclusive, role in running societal organizations and economies. As African economies ran into difficulties, attention has focused on the participation of African women in these economies.

Changes in role

What has happened to the doctrine of triple custody in the period since the colonial days?

Among the factors that increased woman's role on the land was wage labor for men. Faced with an African population reluctant to work for low wages, colonial rulers had already experimented with both forced labor, "vagrancy" laws, and taxation as a way of inducing Africans (especially men) to join the colonial workforce. After the Great Depression and World War II, migrant labor and conscription of males, compounded by the growth of mining industries, left a relatively small proportion of men working on the land.

In southern Africa, the number of men migrating to the mines increased dramatically over time. From the 1930s onward, women, left to manage the farms, became more deeply involved as "custodians of earth." By the 1950s, a remarkable bifurcation was taking place in some southern African societies—a division between a male proletariat (industrial working class) and a female peasantry. South Africa's regulations against families joining their husbands at the mines exacerbated this tendency toward gender-apartheid, the segregation of the sexes. Many women in the "Front Line States" (bordering South Africa) had to fulfill their triple custodial role of fire, water, and earth in greater isolation than ever.

The wars of liberation in southern Africa from the 1960s took their own toll on family stability and the traditional sexual division of labor. Some of the fighters did have their wives with them. Indeed, liberation armies in southern Africa often included significant numbers of women soldiers, some of them high ranking. But on the whole, these conflicts disrupted family life and the traditional sexual division of labor.

After independence, there were "counter-revolutionary wars" in some of the Front Line States. In addition to the usual disruptive consequences of war for the family, these conflicts damaged the transport and communications systems, so that many migrant workers never got home to their families between their contracts with the South African mines.

It is not completely clear how this situation has affected the doctrine of "dual fertility" of African women. One possibility is that the extra long absences of the husbands have reduced fertility rates in parts of some countries, for example, Mozambique. The other scenario is that the pattern of migrant labor in southern Africa generally has initiated a tendency toward *de facto* polyandry. If the more widespread pattern is that of declining fertility, the woman's involvement in matters pertaining to the fertility of the soil may have been increased.

Impact of technology

Other changes in Africa during this period that affected relationships between men and women included the impact of new technologies on gender roles.

Mechanization of agriculture in Africa has tended to marginalize women. Their role as "custodians of Earth" is threatened by unwar-

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ranted male prerogatives in new and more advanced technologies. It is true that greater male involvement in agriculture could help reduce the heavy burdens of work undertaken by women on the land. On the other hand, there is no reason why this relief in workload for women should not come through better technology. Cultivation with the hoe left the African woman centrally involved in agriculture. But cultivation with the tractor was often a prescription for male dominance, as men received financing to purchase tractors and only men operated them. In brief, new technology produced new threats to the role of women in economies.

Another threat to the central role of African women in the economy has come from the nature of western education. The westernized African woman in the second half of the 20th century has tended to be more free but less important for African economies than the traditional woman in rural areas. We define a westernized African woman as one who has successfully completed western-style secondary education plus at least two years of post-secondary training or education in a western-style institution (as distinct from Islamic or indigenous forms of education). More highly westernized African women are usually those who have completed university education or professional training in the western tradition.

The great majority of African women who have successfully completed secondary education neither return to the land nor enter comparably productive professions in cities. They settle for jobs as clerks, telephone operators, secretaries, and teachers. The balance of the female role shifts into the services sector. Nevertheless, it may be worth noting that Liberia has had a woman president of the university, while Uganda has had a woman foreign minister—jobs that are still not commonly held by women even in developed economies.

It is true that the westernized African woman is usually more mobile and has more freedom for her own interests than her traditional sister. But a transition from custodian of fire, water, and earth to keeper of the typewriter is definitely a form of marginalization for African womanhood. This is not necessarily a case against western education for women. The imperative is to ensure that female westernization does not result in functional marginalization.

The third threat to the role of the African woman in this period has come with the internationalization of African economies. When economic activity in Africa was more localized, the African woman had a decisive role in local markets and as a trader. But the colonial and post-colonial tendencies toward enlargement of economic scale have increasingly pushed the women to the side in international decisionmaking. It is true that Nigerian women especially have refused to be completely marginalized, even in international trade. But on the whole, the Africans who deal with international markets and sit on the boards of transnational corporations are overwhelmingly men. At the meetings of the Organization of Petroleum Exporting Countries (OPEC)—where Muslims predominate—there are additional cultural inhibitions about having even Nigeria represented by a female delegate.

Policy implications

While Africa does need to modernize and mechanize rural production, it must find ways of doing this without adversely affecting women. The triple custodial role of women needs to find modern equivalents in the productive sector. What can be done to build on the African woman's traditional roles and responsibilities so that she may play a greater role in economic activities? Women as custodians of earth have traditionally emphasized food cultivation. Their greater involvement in the production of cash crops for export could be one way of linking tradition to modernity—and preventing Africa's economic internationalization from resulting in the marginalization of African women. The export trade need not be so male dominated.

But support for traditional market women in food production and local trade need not suffer as a result of this approach. Credit facilities should be made available in such a manner that there is equity, not only between men and women but also between westernized and nonwesternized females. Currently, traditionalist nonwesternized women are often at a disadvantage when assessed for creditworthiness, often because they are also nonliterate. Peer-lending schemes in Nigeria are a step in the right direction.

A higher proportion of nonwesternized women are involved in agricultural production than are their westernized sisters. Indeed, cultural westernization of women—though improving their creditworthiness—tends to decrease women's direct involvement in economic production. Highly westernized African women farmers are almost unknown in many African countries—though there are exceptions in Kenya, Nigeria, and more recently Zimbabwe. Nonwesternized women farmers are the rule all over rural Africa. A balance has to be struck between the two categories of women in relation to both access to credit and role in production. Preventing technology from marginalizing women is yet another imperative. Mechanization is no excuse for sexism. Special programs for women in technical training—from driving tractors to repairing a lorry engine—should be inaugurated.

Women as custodians of fire are the greatest users of firewood in the continent. But shouldn't women also be centrally involved in forest management and reforestation? Wood should increasingly be approached as an integrated industry, bearing in mind the needs of environmental protection and ecological balance. Women as the greatest users of firewood should also become among the leading planters of trees for reforestation.

Carpentry and furniture making are crafts that cry out for much greater female involvement than has been achieved so far. Culturally, women are often the selectors of furniture and the trustees of the domestic infrastructure of the family. Yet, it is an anomaly that African women have played such a limited role in designing furniture or making it.

As traditional custodians of water, do women have any special role in this era of faucets and dams? Africa's women, as we indicated, still trek long distances in some rural areas for their water. But water-related industries are surprisingly still male dominated. This includes the whole infrastructure of water supply in urban areas. Even commercial laundry and dry cleaning for the elite and for foreigners in African towns is still usually owned and managed by men, even when women do most of the washing and ironing.

The future of the continent depends upon a new sexual equation in the whole economic process, involving a cultural rather than a purely economic structural adjustment. On the gender question, Africa needs a cultural reformation—"Seek ye first the cultural kingdom, and all else will be added unto it."

But classical privatization and laissez faire would simply permit worsening conditions of marginalization for women. Progress toward female entrepreneurialization would be aborted or retarded. This is a major reason why Africa needs an activist and enlightened state role in support of gender economic equality. ■

Guest Articles represent the views of the authors and not necessarily the views of the IMF or the World Bank. We invite readers' comments—Editor.

Women in the Workplace in Developing Countries

Although more women are now entering formal job markets, they face major social and economic hurdles, posing challenges for policymakers

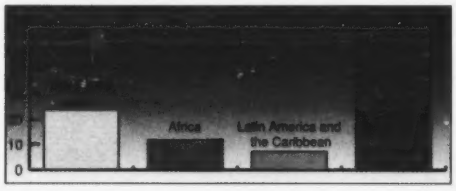
In spite of the increasing public attention to the importance of women in the economies of the developing world, progress toward increasing their participation in the job market has been less than satisfactory. Women work. In most cases, they work longer hours than men. Studies have shown, for example, that in Africa, Asia, and the Pacific, women average 12-13 hours more a week than men. Moreover, an increasing number of women now function as heads of households in the developing world, as ill-health, death, migration, and other disruptive factors have separated males from their families or made them unable to take on the task of running the household. But much of the work done by women is not captured by formal employment statistics, since it is in the household or in family run agricultural or other subsistence activities.

Recent international estimates, prepared by the Statistical Office of the United Nations Secretariat from International Labour Office data (see box), indicate that the proportion of economically active women rose between 1970 and 1990 in most parts of the world except Sub-Saharan Africa. But gaps between women and men's economic participation in the developing world remain wide, reflecting, among other things, fewer educational opportunities and lingering social restrictions.

Roughly 830 million women are economically active today. About 70 percent of them live in developing countries. The accompanying tables and charts reflect the state of women in the workplace in the developing world today.

More than three quarters of the world's women live in the developing world

Regional shares (In percent)



Seventy percent of economically active women live in developing countries, half of them in Asia

Regional shares (In percent)

But three out of four women over 25 years in Asia and Africa are illiterate

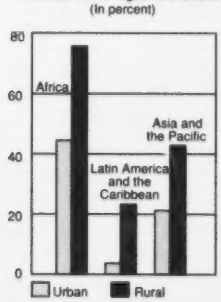
Note: Based on total population of women aged 25 years and over in each region.

1/ Includes Somalia and Mauritania; excludes Cyprus, Israel and Turkey.

2/ Includes Sudan; excludes South Africa.

Young women in rural areas face high barriers of illiteracy

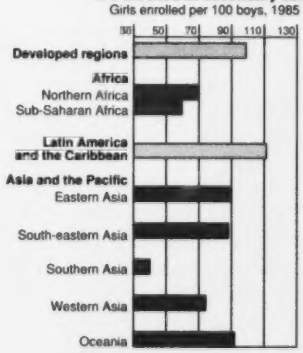
Illiterate women aged 15-24, 1980 (In percent)



Note: Averages based on a limited number of countries in each region for census years around 1980.

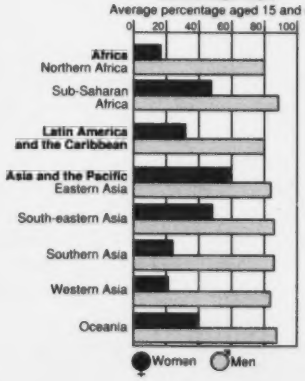
Much fewer girls than boys are enrolled in secondary schools

Girls enrolled per 100 boys, 1985



As a result, fewer women are economically active than men

Average percentage aged 15 and over



Remote Sensing in Economic Development

Satellite remote sensing provides new insights into the dynamics of the natural environment. But the technology so far has had limited operational use. Why?

Gita Bhatt
Editorial Officer

Like a physician using his stethoscope, resource analysts can now routinely monitor the earth's vital signs from space. Silently circling thousands of miles above the earth's surface, numerous satellites, using a wide variety of instruments, gather and record information on the earth's atmosphere, weather, land cover, sub-surface, and ocean characteristics on a monthly, daily, and even hourly basis. Receiving information from these satellites, scientists from around the world study these images, in conjunction with ground-based surveys, to gain a truly global, and often specific, idea of crucial changes on the earth.

The process of collecting images and quantitative data in this way is often generically referred to as "remote sensing." This technology has evolved over the last 30 years. Meteorological satellite data have been used to forecast weather patterns since the 1960s. But with the development of sophisticated satellite instruments since 1972—when the first earth observation satellite was launched—many countries have found increasingly varied applications of space-based images for development planning and projects. Indeed, satellite remote sensing has emerged as a valuable tool for resource management, especially in the developing world. The range of applications is diverse. For example, satellite data has been used to monitor forest clearance in Brazil, assess the conditions of crops affected by moisture, disease, insects, and weather in Africa, evaluate Indian tropical forests, detect the birth of tropical cyclones in the Bay of Bengal, and monitor geological activities in China and central Mexico. The policy and investment decisions that might be made from this information relate to a wide range of operational and strategic planning activities, such as monitoring agricultural yields and crop health, land use planning, project site evaluation, forest management, hydrology, and mineral and oil exploration, to cite a few examples.

The use of satellite imagery to collect data for environmental and natural resource surveys is a cost-effective alternative to traditional survey methods involving extensive field-work or aerial photographs. Many people believe this technology is especially important for developing countries, where traditional data sources such as maps and statistics on natural resource and environmental conditions are often incomplete or out of date. This lack of adequate resource information frequently poses constraints, for instance, on the design and evaluation of devel-

Several papers on aspects of this topic are available from the Bank's regional environment departments. In particular, see "Satellite Remote Sensing for Natural Disaster Preparedness and Emergency Response Planning" by Glen Morgan in Colloquium on Disasters, Sustainability and Development: A Look to the 1990s, *edited by Alcira Kreimer and Michele Zador, World Bank Environment Working Paper No. 23; "Remote Sensing Activities in the World Bank: A Review of Experiences and Current Technical Capabilities," prepared by Glen Morgan for the Symposium on Agricultural Applications of Remote Sensing Technology, Washington, DC, March 30–31, 1989; and "Satellite Remote Sensing for Agricultural Projects," edited by J.P. Gastellu-Etchegorry , World Bank Technical Paper No. 128.*

opment projects. Satellite remote sensing is filling some of these critical information gaps.

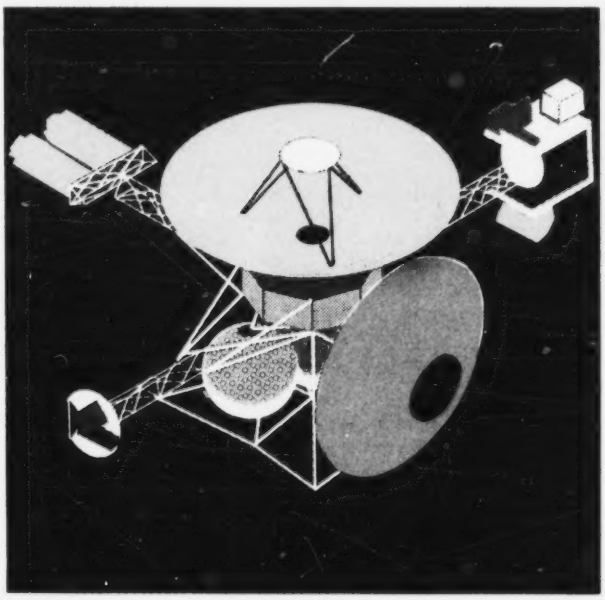
For these reasons, a number of United Nations organizations and other national and international agencies are helping developing countries improve their use of satellite remote sensing in the identification, preparation, and evaluation of projects. In addition, many developing countries, including India, Mexico, Indonesia, Sri Lanka, Brazil, China, and Egypt, are actively supporting space application programs, some of them entirely dedicated to remote sensing. But, satellite remote sensing is not a panacea. Although the technology holds tremendous potential, its use is very limited and often still at an experimental stage. Much progress needs to be made in converting the potential into a practical reality.

History of the technology

Over the years, many different types of satellite remote sensing systems have been developed. Essentially, they all work by measuring the energy emitted or reflected from the earth's surface. Satellite sensor systems vary widely, however, with respect to the area displayed in a picture, the regularity with which an area can be observed, and the amount of detail that can be measured in the picture. These measurements are converted into numerical representations, transferred from space to ground receiving stations, stored in computer files, and eventually processed by computer programs into images that can be displayed on paper or on a computer screen. The price of acquiring a satellite image varies depending upon the level of processing and the format of the product (e.g., digital or photographic form). Typically, color prints on a scale of 1:5000,000 would cost about $700, while a standard digital scene would cost around $3,600.

The US National Aeronautics and Space Administration (NASA) designed, built, and launched the first Earth Resource Technology Satellite or ERTS (later renamed Landsat 1), in 1972. Over the next 15 years, Landsats 2–5 were launched, providing continuous service to many countries. The Landsat system has two sensors. One, the Multispectral Scanner (MSS), measures reflected energy over an area approximately 80 meters by 80 meters on the ground. The other, known as the Thematic Mapper (TM), is more precise and can detect features on the ground as small as 30 meters. The Landsat system was privatized in September 1985 and is now managed and operated by the Earth Observation Satellite Company (EOSAT). A sixth satellite is scheduled to be launched in the coming months.

France launched two of its own remote sensing satellites in 1986 and 1990 to be run on a commercial basis. The French company Satellite Probatoire d'Observation de la Terre (SPOT) is controlled by the Centre National d'Etudes Spatiales (CNES), the French Space Agency. Two other satellite programs are designed to provide remote sensing data for commercial uses: MOS-1, lofted in February 1987 by the National Space Development Agency of Japan, is primarily a marine observation satellite whose images are not yet widely available, and IRS, first launched in 1988 by the Indian Space Research Organization. In addition, there are numerous systems that will soon become operational, including Canada's RADARSAT and the European Space Agency's ERS-1 system.



Why remote sensing?

The rationale for measuring land, sea, and atmospheric conditions from space was based on the need for more timely and cheaper collection and reporting of information on the earth's resources. In particular, satellite imagery is thought to have three significant advantages:

Wide area coverage. In comparison with aerial photography or ground surveys, satellite remote sensing provides a view over large areas at one glance. This is particularly important when studying natural systems such as forests or river basins, which may extend for thousands of square kilometers. This synoptic view allows the analyst to evaluate land and water resource changes in their regional context, not simply as some localized phenomenon.

The NASA Goddard Space Flight Center in Greenbelt, Maryland, for example, has pioneered the use of satellite imagery to study vegetation patterns of Africa's Sub-Saharan region. The analysis has provided many important insights into the regional problem of desertification and has led to better understanding about regional changes. This imagery was used to provide early warnings of infestations of desert locusts throughout the Sub-Saharan region in 1986. The satellite pictures allowed analysts to study the relationship between vegetation and local rainfall patterns and thereby identify areas where locusts were probably breeding. The data assisted crop protection service agencies, responsible for planning and carrying out locust survey and control activities, in pinpointing and spraying the exact infested areas.

Repetitive coverage. Because image-gathering satellites operate on a continuous basis, satellite remote sensing can study areas on a highly repetitive basis—something that is very costly, or impossible, to do with other survey techniques. It is this capacity to track changes in natural phenomena that sets satellite remote sensing apart from other monitoring tools. This is particularly relevant for the analysis of rapidly changing phenomena, such as crop growth, deforestation, or natural disasters, such as forest fires or widespread flooding. For example, the imagery was successfully used to monitor wildfires in Kalimantan and North Borneo, Indonesia, in 1982–83, leading to a re-evaluation of the role of fire in the fate of tropical forests. Where events are seasonal or of a known duration, as in the case of crop surveys, the satellites can be programmed to acquire images over the area of interest in advance, thus ensuring timely data for planners.

In Brazil, the National Space Agency now routinely uses satellite imagery to study tropical deforestation in the Amazon Basin. The repetitive use of remote sensing over large areas over a period of years will contribute enormously to that country's understanding of trends in the use of forest resources. In Laos, the Swedish Government has supported the

use of SPOT satellite imagery to assist in the updating of a national forest and land use assessment for the whole country. This survey will help long-term monitoring of the country's forest resources. Following the severe drought in Sudan in 1983–84, the Sudanese government, with the assistance of the United States Agency for International Development (USAID), and other donors, used remote sensing data to improve the system for estimating food and other crop production in the area of central Sudan. As a result, Sudan now has an operating system for estimating the annual food crop. This has become invaluable for managing food supply where there is wide fluctuation in rainfall and crop production from year to year.

Lower costs. The use of remote sensing data can lead to lower costs than an airborne or ground survey and data can be acquired within a shorter time frame. For instance, ground-based surveys of regional resources normally take months or years. Satellite remote sensing can do a resource survey in weeks and so speed up decision-making processes. In surveying rangelands, for example, satellite data enables large areas of land to be analyzed speedily to produce regional land-use maps. For example, in 1987, the World Bank undertook an exhaustive land use survey and land use mapping study of the Philippines. With funding from the Swedish Agency for International Technical and Economic Co-operation (BITS), the Bank, in agreement with the Philippines Department of Environment and Natural Resources (DENR) used Spot images to map the entire country. The study, which was completed in one year, from April 1987 to April 1988, and cost approximately $1.7 million, provided accurate, up-to-date statistics on the state of the country's resources and was used in directing the Bank's investment program in that area.

Satellite imagery can also play a valuable role in geological mapping and exploration. A single Landsat scene, which covers 33,500 square kilometers, for example, allows geologists to identify and map major structural features, such as faults and fractures at the earth's surface, and detect areas potentially rich in minerals. Images that may reveal the presence of geological structures containing minerals or oil are useful in beginning exploration. Without the imagery from the satellite, geologists would need more vast seismic surveying, at many times the cost, before anyone could make the same judgment.

Contribution to development

The contribution of remote sensing as a tool for increased economic efficiency and development has been difficult to assess. In spite of impressive advances in the state of the art, users of satellite remote sensing are faced with numerous operational constraints, some related directly to the technology itself, but many more related to the central problem of the role of information systems in the decision-making process. These constraints often limit the overall contribution of this technology to development efforts.

One of the major problems of the Landsat and SPOT sensors is their inability to penetrate cloud cover. This is a serious constraint in tropical areas, where cloud cover can be an almost permanent feature. Cloud cover also limits the scope for repetitive coverage cited above. Another drawback of satellite imagery for land-use planning is the limited amount of detail that can be measured in the picture. In many developing countries, where operational land holdings are frequently less than two hectares and of irregular shape, it is often difficult to discriminate between different agricultural land uses. This is a particular problem in developing areas, mainly in Sub-Saharan Africa, where multicropping is practiced and where there is more than one growing season. In some cases, such discrimination is vital for effective land-use planning, analysis of cropping patterns, and even forecasts of production.

The quality of the data is of little relevance unless information is made available and put to use, including for the setting of priorities for public policy. Many countries have been slow to accept the implications of information provided by remote sensing. Many developing countries have a poorly developed natural resource and environmental management capacity and hence are unable to use the improved information effectively. In India, for instance, Landsat imagery was used to conduct a national survey of the country's wastelands in 1988. This project identified the nature and extent of wastelands in over 180 of the most seriously affected districts of the country. The survey revealed many disturbing trends in agriculture and forestry land use. However, the results of this survey have, so far, failed to have an operational impact. While the surveys confirmed fears of widespread and serious degradation, the magnitude of the problem is so overwhelming that the government has been unable to effectively respond owing to numerous budgetary and logistical constraints.

Further, the track record of transferring remote sensing technology has been disappointing for developing countries. In many cases, the technology has been promoted without a clear understanding of the development context in which it is being placed. In designing programs involving remote sensing, donor agencies have paid little attention to the actual needs of potential users at the local, regional, and national levels, and to the technical, institutional, and economic barriers to meeting these needs. Often prospective users of remote sensing have no clear idea of how the imagery might help them. Enamored with slick graphics and high-tech gadgetry, many agencies have bought into the technology without thinking clearly through the implications. Thus, products developed from remote sensing all too often have failed to meet user expectations. While many countries have established national centers, these centers frequently fail to integrate themselves with government ministries responsible for designing policies. Moreover, in many cases, there are no arrangements for educating policymakers who will make use of the information generated. As a result, these highly specialized remote sensing centers end up as marginalized research institutions with little operational impact.

Too often the countries that stand to benefit the most from the technology are the ones least able to do so. Often they lack the trained personnel and equipment to purchase the data, analyze it, and come up with informed recommendations and decisions. While the cost of image acquisition and analysis is relatively low compared to aerial and ground surveys, remote sensing survey programs frequently receive little attention from governments facing many other pressing issues and severe resource constraints.

Future prospects

In spite of these problems, many important developments are taking place in remote sensing that will make it more useful. New RADAR satellite systems will soon be available that will "see" through clouds. New desktop image processing systems are coming into wide use, which will take the job of image analysis out of sophisticated computer laboratories and into the offices of operational professionals.

Many bilateral assistance programs now stress a more cautious approach, emphasizing the needs of users and more relevant and longer training programs. Vendors of hardware and software are more willing to view their role in the developing world in longer time frames. Perhaps most important, the early mixed reviews of remote sensing as a national development tool have led to approaches that emphasize more systematic evaluation of user needs. Promoters of national survey programs are much more likely to scrutinize the actual utility of these surveys for planning and decisionmaking rather than simply collecting data for its own sake. ■

BOOKS

Conflict or Cooperation?

Paul Mosley, Jane Harrigan, and John Toye

Aid and Power

The World Bank and Policy-based Lending

Routledge, New York, NY, USA, 1991, Volume 1: Analysis and Policy Proposals, xvii + 317 pp., $67.95 ($22.50 paper); Volume 2: Case Studies, xiii + 443 pp., $69.95 ($27.50 paper).

This ambitious exercise in international political economy is as much a window into the intellectual evolution of its British authors as it is an examination of the World Bank's experience with structural adjustment lending in the 1980s. The researchers begin with the hypothesis that the intellectually arrogant but powerful Bank impresses its policy conditions on weak, unwilling borrowers, which then try their best to wriggle out of their commitments. Yet, at the end of their multiyear, nine-country case study, the authors find themselves in sympathy with many of the Bank's purposes, endorse the direction of recent Bank efforts to correct flaws in its policy-based loans, and offer recommendations intended to improve the rate of compliance with Bank conditionality.

The authors begin by positing an inherent conflict between a World Bank wishing to maximize conditionality and recipient governments seeking to guard their sovereignty and minimize the short-term political costs of adjustment. All parties, however, share one interest for money to flow: The borrowers need the cash, while Bank staff face internal pressures to push money out the door. Hence, a bargain is eventually struck.

These bargains are unequal across countries. The Bank is found to impose tighter, more numerous conditions on poorer countries most in need of official finance. The toughness of conditions is not a function of the degree of market distortions, but of bargaining leverage. The authors stress, however, that even weak, needy nations generally can maneuver their way around actual implementation of distasteful conditions, since noncompliance has very rarely triggered cancellation of second tranche disbursement: In the end, the pressure to reach loan targets outweighs the Bank's policy objectives. At the same time, the authors do note that some governments guilty of noncompliance will receive fewer loans in the future, especially if the country in question is small and weak.

The nine case studies (Ecuador, Ghana, Guyana, Jamaica, Kenya, Malawi, the Philippines, Thailand, and Turkey) reveal a rate of compliance with individual conditions of 54 percent, which is close to the result of a 1988 Bank survey of a much larger sample of country cases. The authors present several recommendations intended to raise the rate of success for adjustment programs. They deplore the tendency, most notable in early structural adjustment loans (SAL), to impose extravagant and naive "Christmas" lists of requirements that overload borrowers' limited administrative capacities and render the ultimate "pass/fail" decision extremely subjective. The proposed alternative is a more carefully phased and selective conditionality.

The case studies find that policy-based loans have generally stimulated export growth, but investment has often lagged. To correct this flaw in SAL design, it is suggested that loan covenants protect the level of real government development expenditure. Moreover, Bank staff should advise the IMF on pro-investment stabilization options.

The study also urges greater sensitivity to particular country circumstances. Whereas market-oriented reforms have served to accelerate the relatively successful adjustment processes in middle-income nations, such reforms, it is argued, have only deepened poverty in African nations, where governments need to *increase* their activism to overcome market failures and to stimulate supply responsiveness.

The most interesting recommendations are intended to help the Bank's natural allies—the technocrats in central banking and ministries of finance—to assemble winning, pro-reform coalitions. In particular, the allegiance of operational ministries should be secured by feeding them sector and project loans, while the opposition of inevitable losers can be diluted by bribing them with nondistortive compensation payments. The Bank can stiffen the technocrats' own resolve by providing them with persuasive intellectual artillery and electronic data processing capacity.

Thus, the book's logic, which begins as a unitary actor bargaining game, evolves into a more sophisticated model that disaggregates the domestic political economy. The initial, cynical notion—that borrowers reflexively oppose policy-based loans for fear of short-term political costs—is discarded in favor of the more empirical findings that important factions within governments have been prepared to weather storms in order to reach long-term social gains. Indeed, the notion that governments are inherently near-sighted and narrowly self-interested is more appropriate to the cynical rational choice school—an attitude that the authors themselves mock.

Many of the findings of this valuable study have been duplicated in recent Bank self-assessments and are gradually filtering into staff practice. This book concludes with the hope that the "valuable," "imaginative" concept of policy-based lending continue to evolve toward a "kinder, greener, gentler World Bank for the 1990s." At which point, the authors will presumably discard their model of inherent conflict and embrace a perspective that commonly finds mutual interests between the Bank and its borrowers.

Richard E. Feinberg
President, Inter-American Dialogue

Gerald M. Meier (editor)

Politics and Policy Making in Developing Countries

Perspectives on the New Political Economy

ICS Press, San Francisco, CA, USA, 1991, xi + 369 pp., $14.95.

What is the usefulness of "the new political economy" (NPE)? This interesting book contains the papers and discussions of a conference at which economists, political scientists, and policymakers discussed the policymaking and reform process in developing countries and the relevance of the NPE. Most of the participants, especially the political scientists, were rather critical.

To be clear on what it is all about, one might quote one of the contributors, T.N. Srinivasan. He defines the NPE by "the axiom that agents behave rationally; that

is, they have a consistent set of preferences over their actions, and they choose an action whose outcome is preferable to the outcome of other actions they also find feasible, given the constraints within which they act ...." He also says that "no other assumptions can lead to a meaningful, testable theory, because once the postulate of rational behavior is abandoned, any outcome is *a priori* possible." The "agents" refer here to those who influence or determine political decisions (i.e., politicians and bureaucrats).

So here we have an evolving body of theory that tries to show why governments do what they do, and why economists who concern themselves with the "national interest" are not listened to. Perhaps it is a reaction against the excessive naïveté of some economists who have expected their advice about complicated "optimal" policies to be readily accepted.

The issues are certainly important. In particular, how does reform come about? Political scientist Merilee S. Grindle points out convincingly that the NPE is inadequate for explaining how change occurs; it explains much more why policymakers resist change. The approach of NPE is unduly pessimistic. In fact, in several Latin American countries, not to speak of the ex-socialist countries, major reforms have been taking place, and, in this reviewer's judgment, this body of theory only focuses on rather obvious reasons why reforms are difficult, not on why they do take place. Furthermore, William Easterly points out that "the self-defeating nature of populist policies does not support a theory of rational politicians pursuing such to their political advantage and to the economic benefit of their working-class constituents." He instead supports "economists' rather arrogant, old-fashioned idea that policymakers often do not know enough to act in their own best interest." Of course, one might add that politicians often perceive their own interest as the need to win the next election.

These extracts may give a flavor of the issues discussed. Apart from several expositions or applications of the new political economy, especially by Findlay and Srinivasan, and the critiques from the political scientists, there are papers more pragmatically focused on policy reforms, dealing with land reform, poverty alleviation, public enterprise divestiture, and inflation and destabilization. Several contributions come from experienced policymakers in Latin America. One, Francisco Swett from Ecuador, remarks that "it is wasteful to seek to build elaborate explanations based on self-evident truths." Yet, one might comment in reply that the "truths" have to be built into theories if they are to make a full impact.

In an excellent final overview, the editor remarks that "the general problem for explaining 'turning points' is to determine what forces induce political innovations. Policy reform requires political entrepreneurship. But a theory of political entrepreneurship is not to be found in the NPE." This remark signposts a research agenda, where, no doubt, historians and political scientists are needed as much as economists.

W. Max Corden

Jeffry Frieden

Debt, Development, and Democracy

Modern Political Economy and Latin America

Princeton University Press, Princeton, NJ, USA, 1991, x + 280 pp., $29.95.

Karen Lissakers

Banks, Borrowers and the Establishment

A Revisionist Account of the International Debt Crisis

Basic Books, New York, NY, USA, 1991, ix + 280 pp., $23.

Recent economic history of developing countries—particularly those in Latin America—has been characterized by mounting public sector deficits and weak monetary policies, frequently accompanied by alternate attempts to liberalize and increase controls on foreign trade and foreign exchange markets. The result has been increased external imbalances, accelerated inflation, and slow economic growth. These trends were initially masked by heavy access to commercial bank borrowing and improving terms of trade. However, as external conditions worsened, Latin America confronted a major shock in the early 1980s from which the region is only now starting to emerge.

These two books explore these issues from new perspectives. The volume by Frieden analyzes the different patterns of national, economic, and political behavior that arose in Argentina, Brazil, Chile, Mexico, and Venezuela from 1965–85. It systematically presents the different ways these countries dealt with similar external conditions. The study of the five countries reveals the importance of political pressures by special interest groups (both toward governments and from governments) in shaping economic policy and finally, the importance that economic interests have on political behavior.

The book discusses in detail how specific groups supported or forced certain policies and how the failures of economic policy led in some cases to changes in political regimes (Argentina and Brazil), or in government policy orientation (Mexico and Venezuela). Only in Chile did the reformist economic policies remain broadly unchanged even in the presence of significant criticism, because of overwhelming concern by government supporters of the need to preserve political stability. The book also analyzes how the economic interests of political forces affected the role of the public sector in economic activity. The author claims that his goals are modest, but this well-researched book can undoubtedly shed new light on understanding the forces that have brought the region closer to attaining the two hopefully consistent goals of democracy and sustained economic growth.

The volume by Karen Lissakers seeks to provide a "revisionist account of the International Debt Crisis." It presents an entertaining description of how the onerous relationship between commercial banks and developing countries developed. The book provides a detailed account of events and protagonists, but does not attempt to present a systematic analysis of the situations. Correctly, and not surprisingly, it blames many of the problems of excessive borrowing in the 1970s not only on sovereign borrowers but also on careless lenders, aided in many cases by legislation in industrial countries that created inordinate incentives to these activities.

The author then discusses the events of the last decade, from the abrupt halt of voluntary lending, through the requirement of forced new money, multiyear agreements, the more recent debt reduc-

tion operations, and now the incipient new voluntary lending. Ms. Lissakers makes the arguable point that in the process of financial reconstruction that started in 1982, commercial banks had the upper hand, with the support of creditor governments. In fact, the banks were under considerable pressure by governments and had to pay a high price for their poor lending record, as reflected in the secondary market price for developing country debt and the impact that these operations had on the banks' net worth.

It would have been more appropriate if this book would not have sought to provide ex-post advice on the approach taken by debtor and creditor countries, banks, and multilateral organizations, especially on the immediate need for debt reduction when the debt crisis emerged. After all, errors of judgment were made by all parties. In any event, while some of her analysis could be questioned, Ms. Lissakers correctly concludes that conditions exist for the development of effective cooperative solutions based on the newly acquired wisdom of borrowers and lenders.

Claudio M. Loser

Jagdish Bhagwati (edited by Douglas A. Irwin)

Political Economy and International Economics

The MIT Press, Cambridge, MA, USA, 1991, xi + 576 pp., $45.

This book—the fifth volume of Professor Bhagwati's collected writings—provides an ideal bedside companion for the insomniac international economist. It offers a compendium of the Professor's work since 1984 and covers a broad range—lectures bearing masterly overviews of his many subjects, learned articles containing important theoretical insights, succinct surveys for edited collections, thoughtful policy analysis, and *jeux d'esprit*. The focus of the book coincides with Bhagwati's central concerns in recent years with the political economy of commercial policy and directly unproductive (DUP) activities. But the collection ranges widely to include a playful analysis of the economics of organized religion, further thoughts on the paradoxes of "immiserizing" growth, and important work on trade in services and international immigration. And all presented with the Professor's inimitable style and wit. Truly a book that can be dipped into for enlightenment and distraction at all hours of the night (and day).

For the policymaker, the most interesting and relevant sections of the book may be those related to the political economy of commercial policy. Here there are two persistent themes. One is that the case for free trade is alive and well. Bhagwati provides a spirited rebuttal to those who dare to believe that advances in modeling increasing returns and strategic competition in international trade have weakened the arguments for free trade. The Professor recognizes that, as in other circumstances where perfect competition does not rule and markets fail, protection can under certain conditions be shown to improve on free trade. But he argues strongly that, in a world of uncertainty and limited information, in which lobbyists push for sectoral advantages, and foreign governments retaliate in response to aggression, mutual and symmetric access to each other's markets should remain a fundamental guiding principle.

Bhagwati's second theme may be more disquieting to the reader, that in understanding policymaking one needs to move beyond the idea of a "puppet" government responding precisely to the benign economist's directions, to that of a "clearing house" government that responds to pressures from interested parties. These responses give rise to the possibility of the DUP activity, which can generate profit for the protagonist without producing any good or service with any value for consumers or producers. Lobbying for protection or other means of creating artificial monopolies are typical DUP activities.

Charles Collyns

Warwick McKibbin and Jeffrey Sachs

Global Linkages

Macroeconomic Interdependence and Cooperation in the World Economy

The Brookings Institution, Washington, DC, USA, 1991, xi + 277 pp., $36.95 ($16.95 paper).

Reading through this book brought me back to my graduate school days when I took an applied course in macro modeling. At the time, the professor relied on a series of books by Pindyck, Chow, and others that ran the gamut from model building to optimal control. This book could prove to be a very useful addition to the field of applied econometric modeling since it covers every one of these topics. (After writing this review, I discovered that the authors sell a user-friendly PC version of this model that enables one to replicate much of the quantitative analysis of the book.)

The authors systematically take the reader through the process of applied macroeconomic model building, starting with theory and ending with sophisticated policy analysis. In addition, they provide the reader with three very useful appendices that include the equations and parameters of the model, a set of tables of policy multipliers that can be used for "back of the envelope" policy analysis, and finally a set of algorithms that can be used to solve rational expectations models with strategic game behavior.

For those readers who might already be turned off by a book that they perceive is nothing more than a description of a model and its multipliers, they will find that this book is much more and serves several other purposes. It contains an excellent overview of two theoretical areas. Chapter 2 starts with a concise presentation of the simple Mundell-Fleming model, followed by several useful extensions that include debt dynamics, rational expectations, and the supply side. One of the most readable discussions of the theory of policy coordination, including the issue of time inconsistency, is contained in Chapter 7.

In addition to these theoretical sections, the book is integrated with a theme, namely, explaining the large fiscal and external imbalances that existed in the 1980s. The authors hypothesize that the large current account imbalances are the result of identifiable macro policies rather than trade policies.

The McKibbin-Sachs global model belongs to the rational expectations (RE) class of applied macroeconomic models that have recently gained increasing popularity. As with other RE models, the authors are able to analyze, and even highlight, the importance of policy announcements as well as current policy settings in explaining much of the major

movements in economic variables in the 1980s.

The authors rely on a variety of methods, primarily computable general equilibrium techniques, to estimate their model. Forecasting with RE models is not very straightforward since it depends on the future and unknown paths of all exogenous variables. The authors introduce a technique for tracking history, that while original, is not very convincing, since it depends on some very restrictive assumptions, including limiting expectations errors to two variables and a very arbitrary monetary policy regime. A comparison to other methods, such as stochastic simulations, might have made this analysis more convincing. The authors include a variety of standard simulations (i.e., fiscal, monetary, oil prices, and LDC transfers) but the most interesting simulation chapter includes a lengthy analysis of the dramatic decline in the value of the dollar (hard landings) and policies that might correct world imbalances.

Anyone who has a serious interest in dynamic international macroeconomic model building, and probably those who are already involved in the area, need to read this book. It is the best available reference on "how to correctly build a model."

Steve Symansky

E. Roy Weintraub

Stabilizing Dynamics

Constructing Economic Knowledge

Cambridge University Press, Cambridge, MA, USA, 1991, x + 177 pp., $39.50.

This book is about the crown jewel of economics—the theory of equilibrium. It offers a behind the scenes look at the making of mathematical economics and its subsequent glorification using rhetoric imported from the history of science. In its pages, the dispassionate reader will discover a sense for the foundations of the discipline that is deeply sobering. Weintraub is not attempting to topple any idols, but inadvertently he does direct our attention to the instability of some pedestals.

He traces the evolution of the concept of equilibrium from its primitive state in Hicks' Jacobian matrices to its next reincarnation in the hands of Samuelson, who introduced the notion of dynamism via the mathematics of Lotka, Gibbs, and Wilson. Then, over two score pages, we edge toward Liapunov theory, which provided Arrow, Hurwicz, and Block with the conditions to assure the stability of equilibrium. The story ends with the Godelian challenge posed by Scarf and Gale who devised models, with well-defined competitive equilibrium states, which fall short of stability.

Weintraub insists that economics adapts the use of mathematics for its own clarification. But instead of a fruitful interplay between two powerful and well-matched disciplines, what we witness is the fashioning of economic terminology around mathematical techniques. The entire process is distinctly unheroic. Instead of a thunderous intellectual debate leading to the emergence of useful economic theories that are rigorous and "scientific" to boot, we observe economics backing into mathematics with disregard for its social relevance.

Weintraub does us a service by revealing how economics has attempted to become a rigorous discipline by using notions current in the history of science to validate its credentials. His pages are peppered with references to Lakatos and Popper. In fact, there is a virtual smorgasbord of quotes and references not just from the history of science but also from the works of literary critics, who are inventing novel ways of "reading texts." But after one has closed the book and the many contending voices have faded away, the realization dawns that the persistent romance economists have had with the likes of Popper and the apparent budding flirtation with the literary *avant garde*, is appallingly sterile. Alas, the foundations of economics on which so many talented minds have expended so much effort are no deeper in spite of hermeneutics or the incessant debates over methodological fine points.

One emerges from Weintraub's book relieved to find that the economics we practice is alive and well and works whether "gross substitutability" conditions apply or not. *Stabilizing Dynamics* is not an easy read as it is stitched together from articles published earlier, but the determined reader will acquire a revealing perspective.

Shahid Yusuf

Alberto Giovannini and Colin Mayer (editors)

European Financial Integration

Cambridge University Press, Cambridge, MA, USA, 1991, xxi + 348 pp., $49.50.

L. Alan Winters and Anthony Venables (editors)

European Integration

Trade and Industry

Cambridge University Press, Cambridge, MA, USA, 1991, xviii + 241 pp., $54.50.

These volumes contain the proceedings of two conferences organized by the Centre for Economic Policy Research (CEPR) in 1990. The volume edited by Giovannini and Mayer contains an excellent collection of studies on the impact of European economic integration on the continent's—and the world's—banking, financial, and capital markets. The book highlights the importance of the liberalization of international trade in *assets*, which, in contrast to trade in *goods*, as the editors note in their introductory essay, had not been at "centre stage in the postwar international arena." A particularly adept piece of evidence for this assertion is an insightful reference made to the Articles of Agreement of the IMF, which require members to make their currencies convertible only for current account transactions. From this perspective, this volume not only illustrates the questionable logic of this provision—after all, neither the efficiency of free trade nor the effectiveness of controls depends on the nature of the transaction—but also provides ample evidence of its obsolescence.

The companion volume, edited by Winters and Venables, contains studies that explore the consequences for trade and industry upon completion of the internal market in the European Community. These explorations focus on three sets of issues surrounding "Europe 1992": the consequences for real incomes, factor markets, and external economic relations.

In sum, the papers in these two volumes address issues of great interest both for scholars and policymakers. Their publication is timely in that they underscore the challenges confronting Western European countries, which, though they may appear less dramatic, are no less difficult than those facing their Eastern neighbors.

Manuel Guitián

BOOKS *in brief*

Dwight H. Perkins and Michael Roemer (editors)

Reforming Economic Systems in Developing Countries

Harvard University Press, Cambridge, MA, USA, 1991, viii + 492 pp., $29.95.

This volume is another example of the emerging development consensus for "market friendly" policies. The authors use case studies of economic reform in developing countries to analyze the role of institutions and distributional issues. Several of the papers present nuanced versions of "getting the prices right" to illustrate the role of governments in making markets work better. These include the papers on food policy analysis, trade reform in Indonesia, industrial policy in Bangladesh, and financial sector reform in Indonesia. The remainder focus on the politics of reform—either in general or with reference to a specific country. The regional coverage of the country studies is poor—with five cases from Asia (four on Indonesia and one on Bangladesh) and two cases in Africa (Gambia and Ghana)—and the quality of the papers somewhat varied. But the volume does make an important contribution toward a better understanding of the constraints to reform. For while there is an emerging consensus on the types of economic policies that promote development, there is very little understanding of the social and political conditions that make these policies possible.

Felipe Larrain and Marcelo Selowsky (editors)

The Public Sector and the Latin American Crisis

ICS Press, San Francisco, CA, USA, 1991, v + 352 pp., $14.95.

From the oil-boom 1970s to the economically rocky 1980s, Latin America's fall from relative prosperity was as severe as it was unexpected. But why did the region's productive capacity and standard of living drop so precipitously? And why did interest rates, unemployment, and inflation skyrocket? These are the questions that this book tries to answer, as the authors—many of the region's leading economists—probe the peculiarly Latin American phenomenon of public sector expansion and indebtedness. Drawing on detailed country studies of Argentina, Brazil, Chile, Mexico, Peru, and Venezuela, they analyze the behavior of the public sector in response to external shocks, political and electoral cycles, and private interest groups. They conclude that deep institutional changes in the public sector are called for, along with major efforts to reduce debt.

Sylvia Ostry (editor)

Authority and Academic Scribblers

The Role of Research in East Asian Policy Reform

ICS Press, San Francisco, CA, USA, 1991, xiii + 181 pp., $12.95 (paper).

This conference volume of case studies attempts to showcase the role of policy-oriented research in East Asian economies. The concept underlying the conference, held in March 1989, was a bold one—to bring together academics and politicians to discuss the interaction between research and policy in specific country reform programs. The cases are interesting in their own right, but fail to fully capture elements of political economy that the organizers had envisioned. The missing contributions of political compromise, government persuasion, rent sharing, and plain old luck are elements of East Asian history, which served to provide policy researchers with a receptive environment for their craft. Nevertheless, this book is useful to those interested in the functioning of East Asian institutions.

New readers who wish to receive *Finance & Development* regularly should apply in writing to Subscription Services, *Finance & Development*, International Monetary Fund, Washington, DC 20431, USA, specifying the language edition and briefly stating the reasons for their request. The contents of *Finance & Development* are indexed in Business Periodicals Index, Public Affairs Information Service (PAIS), and Bibliographie Internationale des Sciences Sociales. An annual index of articles and reviews is carried in the December issue.

LETTERS

The AIDS epidemic

Jill Armstrong excellently summarized a depressing situation in her article, "Socioeconomic Implications of AIDS in Developing Countries," (*Finance and Development*, December 1991). It was most revealing to read her article, along with the extracts of the IMF's Managing Director's address "Good News Out of Africa" in the same issue. Mr. Camdessus emphasized the recent higher economic growth of the countries with structural adjustment programs, most of which are in Sub-Saharan Africa (SSA). Ms. Armstrong hypothesized that AIDS "...threatens to alter dramatically the economic and social fabric of many (African) societies, raising serious economic questions about the development process itself ...." The evidence suggests we should go further—that SSA countries with higher HIV prevalence will inevitably be handicapped in their ability to develop and record economic growth for at least the next two to three decades. Hence, measures of growth and response to reforms in SSA must, in the future, be interpreted in the light of countries' HIV/AIDS epidemics; African countries will effectively be struggling toward development with one hand tied behind their backs. Skilled human resources, human capital, are scarce and hard to replace in SSA; yet now any development program in a higher prevalence country can expect to lose up to 15 percent of its skilled staff directly through HIV infection over the next decade. Many other staff will be indirectly affected through having to care for relatives.

The situation, however, is not uniformly bleak. Doomsday scenarios for Africa painted in the early and mid-1980s have not materialized. While general adult urban sero-prevalence has risen in some places to 30 percent, it is usually considerably less. What is worrying, however, is that there has been little discernible fall in sero-prevalence among the youngest adults, who we know were exposed to health educational messages upon reaching sexual maturity.

Two substantive topics raised by Ms. Armstrong deserve particular comment. The first concerns multisectoral approaches to HIV/AIDS—the provision of Cabinet or National AIDS committees coordinating Ministries (most notably overcoming schisms between Ministries of Health and Education). The country example [Uganda] cited is outstanding, but exceptional. Too often, after an initial flurry, multisectoral AIDS organs relapse

into quiescence. Such a relapse occurs as commonly in industrialized as in developing countries.

Second, the statement about falling AIDS incidence in industrialized countries, namely, that "... the rate of increase of new cases (of AIDS) is expected to slow in the industrialized countries because of behavior change among high-risk groups ..." may encourage complacency and a misguided view that the HIV/AIDS problem is confined to (or worse, is only coming from) developing countries. More recent evidence does not support the statement. The two higher risk behavior groups are drug abusers who inject themselves, and homosexuals. Few can demonstrate success in reducing incidence of HIV in drug abusers or control of drug abuse itself. Similarly, after an initial drop in the occurrence of unsafe sex (and HIV incidence) among homosexuals, recent evidence from the United States and the United Kingdom suggest sustained, not falling, HIV incidence among this group. Nobody would deny that the HIV/AIDS burden is falling most heavily on some developing countries, but there is a substantive burden everywhere. The epidemic remains truly global.

Dr. Angus Nicoll
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Credits: Cover art and art on pages 22 and 23: Dale Glasgow. Art on pages 6, 10, 11, 14, and 15: David Wisniewski; page 18: Eric Westbrook; page 28: Luisa Watson. Composition: Betty Maguire and Luisa Watson. Charts: IMF Graphics Section. Bank photos: M. Iannacci. IMF photos: D. Zara and Padraic Hughes-Reid.

The problem of protectionism

What emerges from the two articles on the Uruguay Round, "What is at Stake in the Uruguay Round?" by H.B. Junz and Clemens Boonekamp and "The Uruguay Round: An Unfinished Symphony" by Sylvia Ostry (*Finance & Development*, June 1991) is that while the Rounds have focused on correcting distortions in the international market, a great many problems and obstacles have been encountered. The most serious problem needing to be solved, however, is that of protectionism.

In Latin American countries—such as Colombia—the economy was opened to help exporters, but their products failed to gain entry owing to the various import rules and requirements adopted by the developed countries. The unyielding protectionistic trade policy of the developed countries affects Latin American countries, 70 percent of whose exports go to the United States. Those exports most affected are manufactures, since nontariff barriers are raised as a protectionist measure against imports of goods such as textiles, clothing, leather goods, and iron and steel. The reason for this is that the Latin American countries have begun to compete intensely with the developed world.

Trends in external demand for Latin American exports have not been the most favorable despite discussions in which each step toward liberalization is regarded as a concession requiring a *quid pro quo*. Moreover, regional economic blocks are being formed and bilateral agreements reached which are changing the multilateral nature of the economic and trade relations that have prevailed since World War II. The danger, as the authors conclude, is the end of multilateralism. It is to be hoped that a solution to these problems will quickly emerge from the current negotiations.

Ruth Jacqueline Botia Sachica
Tunja, Boyaca, Colombia

Culture and economic behavior

I read with a great deal of pleasure the article "Development and Cultural Values in Sub-Saharan Africa," by Mamadou Dia (*Finance and Development*, December 1991). I was somewhat surprised to read that the World Bank was involved in a project of this type, given its usually strong emphasis on economic processes, for which the cultural context is simply the milieu, or background exotica.

I have been working in South America for many years now; the interdisciplinary team of which I am a part has tried to explain anomalous outcomes to national planners (principally Chile) as the effect of cultural perceptions that had not been taken into account—perceptions that differed significantly from the assumptions that drove conventional socioeconomic planning. In this we have been successful, in that the national planners now consult us before a coastal development policy is implemented, rather than afterwards to tell them what went wrong.

Anthony Holland O'Malley
St. Mary's University
Halifax, Nova Scotia, Canada

New Editor

Pamela J. Bradley is the new Editor. She was previously Senior Editor of the *IMF Survey*. Ms. Bradley has a BA from Chatham College, Pittsburgh, Pennsylvania, and an MA in economics from Cambridge University, England. Before joining the IMF staff in 1983, she worked for the US Treasury Department.

Breaking with our tradition of anonymity, we publish here a photograph of the staff of *Finance & Development* with the outgoing Editor. Shuja Nawaz, who has been with the journal for 17 1/2 years, is moving to become Division Chief in the IMF Institute. In the photograph (from left to right) are: Martha Bonilla, Editorial Assistant, Christine Smolik, Research Assistant on temporary editorial assignment from the Statistics Department, Gita Bhatt, Editorial Officer, Shuja Nawaz, Editor, Laura Wallace, Assistant Editor, June Lavin, Administrative Assistant, Jessie Hamilton, mailing lists and readers' inquiries, and Luisa Watson, Art Editor.

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–*Financial Times* (April 29, 1992)

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